THE VOROSHILOV LECTURES

MATERIALS FROM THE SOVIET GENERAL STAFF ACADEMY

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VOLUME III
ISSUES OF OPERATIONAL ART

COMPILED BY
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GENERAL EDITOR
GRAHAM HALL TURBIVILLE, Jr.
WITH AN INTRODUCTION BY
DAVID M. GLANTZ

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Issues of Operational Art

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Foreword

WHEN THE UNION OF SOVIET SOCIALIST REPUBLICS passed into history at the end of 1991, all institutions of the former Soviet state faced the long and difficult process of adjusting to vastly changed circumstances. For the Soviet Armed Forces—already reeling from three years of reduction, reorganization, and internal dissension—the future promised to be particularly painful. One year later, the still-functioning General Staff labors to maintain a more or less "unified" military establishment while deflecting challenges from nascent "armies" and security forces in many of the former republics.

This, the third volume of *The Voroshilov Lectures*, deals with carefully conceived and systematically developed approaches to operational art and tactics. However, since the continuity of Soviet military thought in USSR successor states or coalitions is now uncertain, a word needs to be said about the value of this material. The lectures in volumes I and II (published by NDU Press in 1989 and 1990, respectively) and in this volume were presented in the mid-1970s at the Voroshilov General Staff Academy (now under Russian auspices, with *Voroshilov* removed from the name). Collectively, the lectures set out Soviet approaches to warfighting that evolved over the preceding fifty years of Soviet power, and they describe the Soviet approach to theater operations that endured until the start of the 1990s. Despite the fundamental changes already completed (and others yet to come), the lectures remain important both as rich sources of material dealing with planning and executing joint and combined operations, and as part of the military record of the Cold War.

For a successor state like Russia, so closely linked with the Soviet and pre-revolutionary General Staff, the legacy of

military thought captured in *The Voroshilov Lectures* may continue to shape quite directly the forces and employment concepts in a reformed defense establishment. Certainly, the influence of seven decades of Soviet military thought on other successor states could be substantial as well. The post-Cold War world poses a new challenge—to ensure that these successor states and military establishments adhere to goals that are uncompromisingly "defensive." For this reason alone, the volumes of *The Voroshilov Lectures* provide uniquely authoritative criteria.

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THE VOROSHILOV LECTURES

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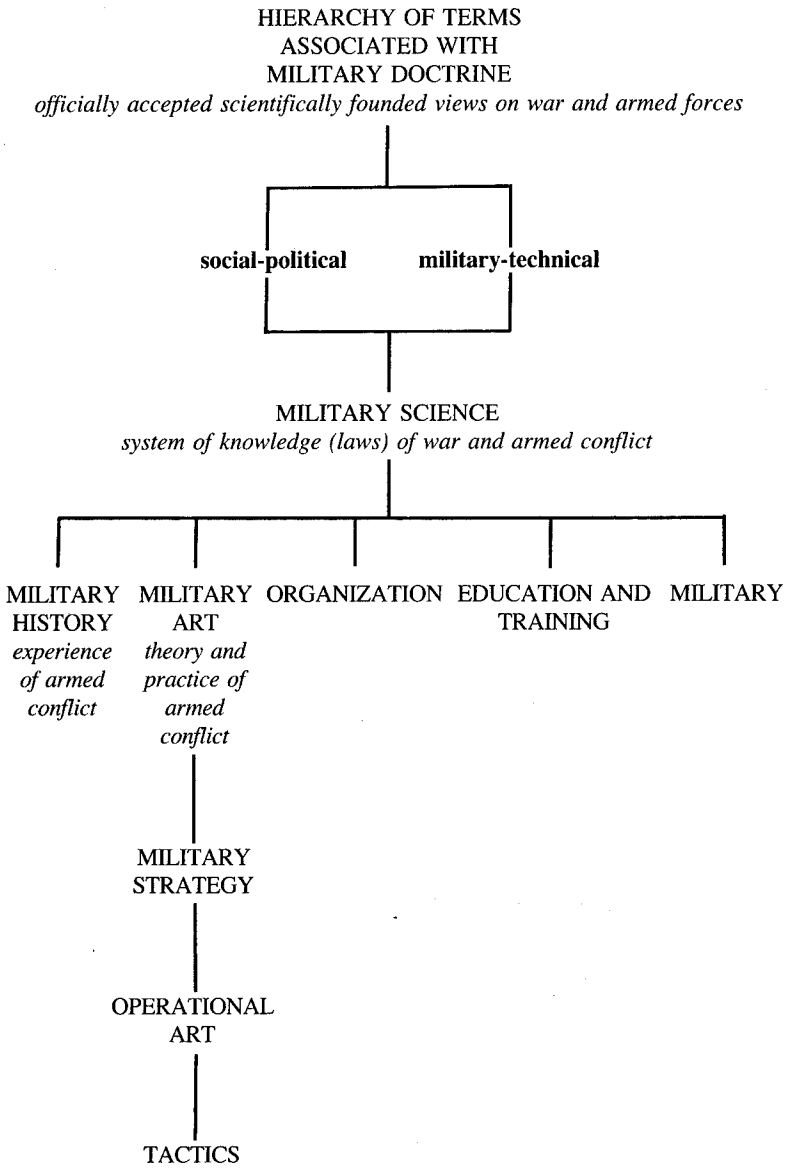
Introduction: A Framework for Operational Art

UNTIL THE DEMISE OF THE USSR, the Soviets consistently viewed history as a process of dialectical change in nature and society. The discipline of history was a science, which, in their view, "studies the development of human society as a single natural process, regular in all of its great variety and contradictions."[1] This process has often produced war, a socio-political phenomenon, which they have characterized as a continuation of politics by violent means. Anticipating the possibility of war, nations created armed forces to use as "the chief and decisive means for the achievement of political aims, as well as economic, diplomatic, ideological, and other means of struggle."[2]

Given the importance of war, the Soviets approached its study scientifically and systematically within the framework of what they termed "military science," one of many sciences which help explain the historical process. System informed the development of Soviet military thought as well as military practice. Over time, Soviet military theorists created a hierarchy of terms associated with a complex range of issues extending from national-level military policy and doctrine to finite battlefield


HIERARCHY OF TERMS
ASSOCIATED WITH
MILITARY DOCTRINE
officially accepted scientifically founded views on war and armed forces
social-political
military-technical
MILITARY SCIENCE
system of knowledge (laws) of war and armed conflict
MILITARY HISTORY
experience of armed conflict
MILITARY ART
theory and practice of armed conflict
ORGANIZATION
EDUCATION AND TRAINING
MILITARY
MILITARY STRATEGY
OPERATIONAL ART
TACTICS

tactics (page 4). The entire semantic and intellectual hierarchy, beginning with military policy, originated from, reflected, and received official sanction from Communist Party dogma and decision. Although that dogma received a perhaps fatal blow in the revolution of August 1991 and subsequent events surrounding the USSR's dissolution, some form of the hierarchy will likely endure in the military theory of Russia and, perhaps, other Soviet successor states.

At the apex of this hierarchy is military policy (*voyennaya politika*), the military facet of national policy associated with the use or threatened use by states of the military instrument to achieve national objectives. The actual use of the armed forces in war and definition of the nature of war is the purview of military doctrine (*voyennaya doktrina*), which, in turn, has examined two fundamental components: political-social and military-technical. Military doctrine, so defined, until recently encompassed "scientifically founded views" of military science with official party sanction, in so doing uniting the objective findings of military analysis with perceived objective truths of socialism.[3] Regardless of whether those former truths will now be rejected, political, social, and military-technical factors will likely remain the domain of doctrine. In the broadest sense, doctrine has reflected, and will continue to reflect, the political realities that condition the political, economic, and social development of all states.

Within the context of military doctrine, military science (*voyennaya nauka*) is "a system of knowledge concerning the nature and laws of war, the preparation of the armed forces and nation for war, and the means of conducting war."[4] Its basic subject is the investigation of armed conflict in war, and while the political leadership of the state manages war, the military leadership and General Staff have played a more significant role in the conduct of armed conflict.

Military art (*voyennaya iskusstva*) is the main component of military science and is concerned with "the theory and practice of preparing for and conducting military operations on the land, at sea, and in the air."[5] The growing complexity of warfare in the twentieth century dictated the necessity for further

refinement of terminology describing the levels and scope of military art. This refinement led the Soviets to subdivide military art into the closely interrelated fields of strategy, operational art, and tactics, each field describing a distinct level of warfare measured against such standards as mission, scale, scope, and duration of military actions. Since "the state of military art depends on the levels of development of production and means of armed conflict, as well as the nature of social structures," and reflects "the historical and national characteristics of a country, its geographical conditions, and other factors," the definition and relative importance of its subordinate fields of strategy, operational art, and tactics changed little over the years since the formation of the Soviet state.[6] A central feature of Soviet military art was basic, yet evolving, principles governing the nature of armed conflict, which develop in consonance with those influences affecting military art in general.

Since the 1920s Soviet military theorists considered military strategy (*voyennaya strategiya*) to be the highest level of military art, "embracing the theory and practice of preparing the nation and armed forces for war, planning and conducting strategic operations and war as a whole."[7] Military strategy dominates the other components in the art of war, and it defines their tasks and the methods of operation of forces on an operational and tactical scale. In turn, military strategy relies on operational art and tactics, taking into account their capabilities, and uses their achievements in the performance of strategic (war-winning) tasks.

The second level of military art is the operational level, identified by the Soviets in the 1920s, and used since that time for the analysis of armed conflict as an intermediate link between tactics and strategy. Operational art (*operativnoye iskusstvo*) encompasses the theory and practice of preparing for and conducting combined and independent operations (*operatsiya*) by large formations of the armed forces. "Stemming from strategic requirements, operational art determines methods of preparing for and conducting operations to achieve strategic goals." In its turn, operational art "establishes the tasks and direction for the development of tactics."[8]

Tactics (*taktika*), as the lowest level of military art, studies problems relating to battle (*srazheniye*) and combat (*boy*), the basic building blocks of operations. Tactics "investigates the rules, nature, and contents of battle and works out the means of preparing for and conducting battle."[9] The military art of tactics is dialectically interrelated with operational art and military strategy. Strategy determines the nature and methods of conducting future war and the place of combat in warfare while operational art determines the specific tasks tactics must address. Conversely, the military art of tactics influences operational art and military strategy.

This well-articulated system for the study of war emerged in the 1920s and persisted for the ensuing seventy years, Since the 1920s the basic relationships within the system between the levels of war have not changed. However, the scope and importance of each level varied according to political and military circumstances, and, most importantly, with technological changes in the implements of war. Moreover, definitions of operational art and retrospective analysis of operational art in past periods of history were altered to accord with contemporary and future circumstances. This constant process of analysis and redefinition of the past both reflected and conditioned contemporary interpretations of operational art and was intended to pave the way for definition of operational art in the future. Today, midst a period of uncertainty regarding the future nature of operational art, it is particularly important to maintain perspective on what operational art has been, is, and may be in the future.

This Volume in Context

During the period after 1960, Soviet military doctrine departed from its enduring fixation on conventional ground warfare and became preoccupied with the sector of nuclear war. As a result, Soviet concern for operational art, in general, and ground forces, in particular, waned. By the end of the decade, however, Soviet theory and doctrine reversed itself and began acknowledging that either nuclear or large-scale conventional

warfare could occur. This halted the eclipse of operational art, and operational techniques intensified. This intensifying concern for operational art, paralleled by Soviet restructuring of the armed forces to improve operational capabilities, elevated the importance of that field from its relative position of neglect in the early 1960s to a major area of concern. The Soviets expressed this concern by formulating the full-fledged concept of the theater-strategic offensive.

The Soviets did, however, conclude that the introduction of nuclear weapons into the global arsenal had altered the development of operational art and, hence, changed the nature of operations. Consequently, they reinvestigated the key subject of the initial period of war, redefined traditional aspects of mass and concentration, and focused on the conduct of maneuver (both operational and tactical) designed to lessen the likelihood that nuclear weapons would be used in future war and, if they were used, lessen the effects of these weapons (particularly tactical nuclear weapons). Throughout the 1970s Soviet study of maneuver focused on antinuclear (*protivoyadernyy*) maneuver and culminated in development of the twin concepts of the theater-strategic offensive and operational maneuver by operational maneuver groups (OMGs).

This volume, the third and final in the series, provides a detailed view of Soviet military thought, technique, and structure related to the explosive development of Soviet operational concepts in the mid-1970s. Its detailed chapters exhaustively recount the intellectual basis, form, and content of combat at the operational level as taught to officers attending the prestigious and authoritative Voroshilov General Staff Academy, as it was then designated.

The lectures address the definitional framework for operational art and the nature of *front* offensive and defensive operations in all their dimensions. Separate lectures dealing with *front* artillery support and rear service support supplement the basic lectures on *front* offensive and defensive operations. The detail in these chapters exceeds that found in any existing unclassified accounts and casts new light on the intricacies and complexity of all aspects of *front* operations.

The final three chapters cover the organization and conduct of army offensive and defensive operations in a manner analogous to the coverage of *fronts*. In addition, one chapter addresses the complex task of army movement and deployment.

These chapters present the material systematically, logically, and thoroughly, in the manner of a Soviet *ustav* (regulation). Most important, as noted, they do so in more detail than any other existing work or set of works. Any questions of authenticity can be dismissed, for extracts and bits of the materials are easily verifiable from either open-source publications, declassified Soviet documents materials, or recently released, but formerly closed, Soviet publications like *Military Thought* (*Voennaya mysl'*). In short, this volume is the definitive source for an accurate view of Soviet operational art in the 1970s; given the continuities apparent in operational art over decades of Soviet military development, its applicability extends well beyond the period in which it was written.

Conclusions

Since its creation as a distinct realm of study in the 1920s, the Soviet definition of operational art has changed little. In theory and in practice, the identification of the operational level, its use in planning and conducting war, retrospectively or as a vehicle for foresight and forecasting, has proven its worth. In this sense, Soviet operational theorists contributed not only to their own military development but also to the health of military establishments of other nations who appreciated and adopted the Soviet approach. It is no coincidence that Western study of the operational level as a distinct and valid subject in its own right burgeoned in the 1970s and 1980s with positive results. This will continue to be the case in the future, and this volume will contribute to that process.

The contents, scope, and importance of operational art have evolved over time in consonance with the changing nature of war. Most important, study of the operational level has fostered better understanding of the impact of technological change on warfare at all levels. At times, technological changes have

increased the importance of operational art (as in the 1930s and 1970s), and at other times major technological innovations (atomic and nuclear) have tended to lessen the importance of operational art relative to strategy. Today, as we confront a new technological revolution in weaponry (high-precision weapons and weapons based on new physical principles), we must again anticipate what impact these weapons will have on the importance of operational art. The manner in which Soviet theorists responded to those trends in the 1960s and 1970s will remain significant.

Likewise, technological changes have altered the relative balance and importance of the offensive and defense within the operational level. The tank and airplane of the 1930s unfettered the offense and made blitzkrieg and deep operations supreme. Corresponding development of antitank defenses during the Second World War restored the viability of the defense until new combined-arms concepts empowered the offense with new strength and vigor by war's end. In much the same way, ATGMs of the 1970s seemed to reinvigorate the defense, while operational and tactical maneuver concepts described in this volume seemed to restore the power of the offense. Today, the effect of high-precision weapons again casts doubt on the viability of tank-based concepts for the conduct of deep offensive operations. Therefore, it is likely that Russian military theorists (and perhaps those of other successor regimes as well) will return to the 1970s to help find answers to their contemporary and future dilemmas. Certainly, an alliance of some or all these states, that features a joint military establishment would look to such material as well.

These incessant dialectical changes have accorded the operational realm a dynamic and ever-changing character and have impelled constant study on the part of military establishments if they hope to master the complexities of operational art. The historical development of operational art eloquently attests to the necessity for constant, sound, and imaginative study if military establishments are to adjust, survive, and master future war.

The 1990s promise to be a decade of such challenges. Russian theorists, and those associated with the developing military

establishments of other Soviet successor states, must lead the way in military analysis if these states are to continue to play an important role in military affairs. It is clear that study is going on, as evidenced by the recent and continuing debates among independent and "Commonwealth of Independent States" military spokesmen regarding defensiveness as juxtaposed against more traditional Soviet offensive operational concepts.

It is reasonable to assume and, in fact, discern from military writings in the early 1980s that Russian theorists, at least, will, while addressing defensive topics, also incorporate elements from their offensive military analysis, which so dominated their attention in the 1970s and persisted in some forums until 1987. This synthesis of old and new should prompt Russian analysis of at least the following topics (probably, for obvious political reasons, primarily in closed forums), which should be of interest to the West as well:

—the employment of operational maneuver groups in the defense and, in particular, in the counteroffensive, counterstroke, and counterattack;
—the use of airborne and air assault forces in defensive battles and operations and in offensive counteractions;
—raid tactics in defensive combat;
—the future of land-air battle and development of the air echelon;
—the future development of nonlinear warfare;
—the modernization, reorganization, and proliferation of artillery systems, organizations, and tactics.

This volume will promote a better understanding of these trends, many of whose roots were in the 1970s.

Whether or not political and economic developments permit further development of operational art in the Soviet successor military establishments to occur in orderly fashion, it is clear that these very questions will also challenge the military establishments of other nations that have more recently developed a keen appreciation for the importance of operational art in future war. An acute understanding of operational issues set within the context of strategy will continue to provide the

cornerstone for mastery of future war and the attainment of national security. By filling a critical information gap regarding Soviet operational art in the 1970s, this volume will better prepare thoughtful theorists to understand how and why change has occurred in the past and to accommodate themselves and their armies to forecast analogous changes in the future.

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Notes

1. "Isatoriya" (History), *Sovetskaya istoricheskaya entsiklopediya* (Soviet historical encyclopedia) (Moscow: Izdatel'stvo "Sovetskaya Entsiklopediya," 1965), 6:578–90.

2. D. A, Volkagonov, S. A. Tiushkovich, "Voyna" (War), *Sovetskaya voyennaya entsiklopediya* (Soviet military encyclopedia), 8 vols. (Moscow: Voyenizdat, 1976), 2:301. Hereafter cited as SVE with appropriate date, volume, and page.

3. *Slovar' osnovnykh terminov* (Dictionary of military terms) (Moscow: Voyenizdat, 1965), translated and published by U.S.Air Force, 1977, 37. See also "Doktrina voyennya" (Military doctrine), *SVE*, 1976, 3: 225–29.

4. A. A. Grechko, "Voyennaya nauka" (Military science), *SVE*, 1976, 2: 183–84.

5. S. P. Ivanov, A. I. Evseyev, "Voyennoye iskusstvo" (Military art), *SVE*, 1976, 2: 211.

6. "Voyennoye iskusstvo" (Military art), *Voyennyi entsikopedicheskiy slovar'* (Military encyclopedic dictionary) (Moscow: Voyenizdat, 1983).

7. N. V. Ogarkov, "Voyennaya strategiya" (Military strategy), *SVE*, 1979, 7: 555.

8. V. G. Kulikov, "Operativnoye iskusstvo" (operational art), *SVE*, 1978, 6: 53.

9. I. G. Borets, "Taktika" (Tactics), *SVE*, 1979, 7: 628–34.

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CHAPTER ONE

Operational Art

I. Introduction

Soviet military art includes three main components: strategy, operational art, and tactics. Each of these components is composed of a group of theories and practical applications to armed struggle at the related level.

Strategy is the highest level of the art of war. It is based on military doctrine and depends on national economic capabilities and potential. Strategy derives directly from national policy and is governed by that policy. It includes the following:

—preparation of the Armed Forces for war;
—planning and conduct of war;
—employing various Services of the Armed Forces and ensuring their troop control.

Operational art is the level intermediate between strategy and tactics. It links the two other levels. Operational art is concerned with wartime employment of operational formations (*fronts* and armies) organic to various Services of the Armed

Forces in order to accomplish the missions assigned to it by strategy.

Tactics is concerned with the combat employment of the following to accomplish the missions assigned by operational art:

—large units (divisions, army corps);
—units (brigades, regiments);
—subunits (battalions, companies, platoons, and sections);
—their combat means and weapons.

II. Subject and Contents of Operational Art

The subject of operational art contains the following:

—analysis;
—study;
—classification;
—proposing recommendations for the preparation and conduct of operations;
—combat actions by operational formations of the services of the Armed Forces in a campaign in any theater of strategic military action (TSMA).

Operations, as a category of the application of military science in the context of operational art, is the sum of the two forms of combat, strikes and attacks, by all means of destruction, or only by conventional weapons. It also includes the forms of combat actions by combat and combat support arms organic to operational formations. Operations take place in a specified area, and are coordinated in terms of objectives, time, and space. They are interrelated with each other, and are to accomplish an assigned operational mission within a unified plan and concept.

The principal content of operational art in modern times is the theory and practice of operations/combat actions by the following:

—operational formations (*fronts*, armies, groups of forces, and naval, air force and air defense operational formations);

—airborne assaults conducted jointly or separately.

The form of the nature and method for conducting such operations/combat actions will be different in future wars.

The content of operational art also includes the preparation and conduct of marches, and the movement of operational formations over large distances. The subjects of operational art are the following:

—the nature and characteristics of operations and the design of principles that ensure the achievement of operational objectives;
—the design of forms and methods for the employing of operational formations in order to accomplish various missions, including working out the main principles and practical recommendations for preparing and conducting of operations (combat actions) by operational formations under various conditions;
—determining the best forms, methods, and formations for the movements of troops over large distances by marching, as well as by various other means of transportation;
—working out measures for all aspects of combat support of the troops in operations, as well as the measures concerning the organization and conduct of troop control.

Operational art has developed considerably in modern times. It comprises general theoretical concepts and principles concerning the operations (combat actions) of operational formations of each Service of the Armed Forces. It also includes some parts of theories specific to each Service which define the particular professional characteristics related to the employment of their operational formations in war.

Operational art is closely connected with the other components of the art of war, i.e., strategy and tactics. It is obvious that none of the three main components of the art of war can deal thoroughly by itself with all issues concerning the preparation and conduct of war, operations (combat actions), and combat. This is because each component of the art describes specific principles and provides practical recommendations for the preparation and conduct of military actions at a specific

level and supplements the other two components. Therefore, the accomplishment of overall missions under the art of war is achieved through the interaction and joint application of all three components.

Among all components of the art of war, the leading role is played by strategy. Therefore, the accomplishment of operational and tactical missions is connected to, and governed by, the general strategic objective. Moreover, the introduction of strategic rockets and other strategic forces, the employment of which supports the achievement of great strategic results in a short time, widely expands the role of strategy in the TSMAs, and also supports the achievement of the overall objective of the war.

This does not mean that the role and importance of other components of the art of war are decreasing. In modern armies, operational formations and tactical large units have their organic nuclear rocket systems. This provides them with more freedom of action in selecting the forms of combat actions and obliges them to act with more initiative and independence. Consequently, the degree and extent of the dependence of strategic success on operational achievements and the dependence of operational success on tactical gains, as was seen in the past, have changed. Now the operational level of command not only determines and specifies the mission of large units, but simultaneously can accomplish, through the employment of its own assets, some operational missions, even before the accomplishment of tactical missions.

Despite the greater independence of each of the components of the art of war, there exists a close interrelationship between them. This shows that the course and outcome of war are directly dependent not only on the action of strategic nuclear forces, but at the same time depend on the outcome of the accomplishment of operational and tactical missions. Therefore, strategy in its analysis and study of the laws of war and its working out of the forms for the employment of the Armed Forces in war considers the status and capability of operational art and tactics as the basis of studies and assessments.

Operational art, in its turn, closely considers the following in its studies, calculations, and assessments:

—status and capabilities of tactics;
—military equipment organic to large units, units, and subunits.

Operational art is required to work for the following:

—realization of strategic concepts;
—organization of the combat action of operational formations of each Service of the Armed Forces;
—supporting the execution of strategic concepts.

The direct execution of combat missions is handled by tactics, but at the same time, the principal initiative in the organization of combat actions of the troops belongs to operational art.

The preparation and conduct of operations (combat actions) by operational formations of each Service are organized and realized within the framework of strategic operations in the TSMA.

III. The Main Factor Affecting the Content and Development of Operational Art

General principles and directions of development of operational art are determined by a large number of factors. The basic factors determining the content and development of operational art and generally guiding the development of the art of war are the following:

—leadership of the Communist Party and State guidance;
—principles of military doctrine;
—scientific and technological progress;
—state of technical equiping of forces;
—state of combat-readiness and troop training;
—status and direction of development of the potential enemy's armed forces and his theory of the art of war;
—characteristics of the TSMAs;

—experience of war, practice, organization, and structure of the Armed Forces in peacetime;
—development of military science;
—constant attention to strengthening the defensive power of the nation.

The Central Committee of the Communist Party of the Soviet Union, in pursuance of decisions made in Party sessions, determines the tasks and principles of the structure and preparation of the Armed Forces, which constitute the basis for the development of the art of war in general, and for operational art in particular. The prime consideration in the structure of the Armed Forces is the fact that it is governed by Party leadership.

One of the factors determining the content and direction of the development of operational art is the military doctrine of the State. Based on the instructions of the Party and State and the recommendations of military science, doctrine specifies the reliable means, forms, and methods of safeguarding the homeland against enemy attack. Doctrine assesses the total characteristics of future wars, the missions faced by the Armed Forces and state in the time of war, and also the forms for conducting these missions. Based on the essence of military doctrine, operational art relies on the assumption that a future war initiated by imperialists will be a general war between the Capitalist and Socialist systems and will be a decisive confrontation between the systems.

Local wars, or wars between several Capitalist and Socialist nations may develop into a general war. Depending on the characteristics and form of its execution, the war may be a general nuclear war, or it may begin with conventional means and develop later into a nuclear war. Local wars may begin and end without the use of nuclear weapons, or war between a number of Capitalist and Socialist countries may begin with conventional weapons and later develop into a nuclear confrontation. The imperialist countries prepare for a war beginning with a surprise attack against the USSR and Socialist nations.

Therefore, the most important task of operational art is to provide theoretical and practical recommendations and guidelines concerning the preparation and conduct of operations by

operational formations under different circumstances. Preparations must be made for the initiation and conduct of war with or without the employment of nuclear weapons, and also to deal with a possible surprise enemy attack. The methods for foiling enemy surprise attacks and repelling strikes are the launching of devastating blows against the aggressor, followed by decisive attacks against the enemy to achieve his total destruction in a short time.

The content and development of operational art are broadly connected with scientific and technological achievements and progress. They are also connected to the standard of technical and combat equiping of the troops. The influence of science and technology on the characteristics and methods of conducting combat actions are realized primarily through the nature of weapons and combat equipment. The history of warfare testifies implicitly to the influence of these factors.

Economic conditions, as well as scientific and technological progress, constitute a major factor in the revolution in military affairs. The Soviet Communist Party and government, utilizing economic, scientific, and technological achievements, constantly seek to promote the combat capabilities of the Armed Forces by providing them with the newest and best versions of weapons and equipment, continuously produced and modified, such as artillery pieces, antitank weapons, radars, etc.

The progressive nature and development of weapons and combat equipment has caused intensive competition and a constant race between offensive and defensive means. The introduction of nuclear weapons greatly increased the capabilities of offensive means, but simultaneously, the capabilities of defensive means have also kept pace with such developments, and have been greatly improved.

In modern armies, along with the advances made in the power of strategic offensive means, rapid developments are being made in operational and tactical nuclear weapons as well. More powerful and improved nuclear weapons and delivery means have been developed. Concurrent with the development of nuclear delivery means, quantitative and qualitative improvements of conventional weapons have also continued. Significant

attention has been paid to the modification and modernization of such weapons in all modern armies. The variety of conventional weapons continues to increase, along with the complexity of their construction. Modern tanks, aircraft, and ships are becoming more sophisticated and represent the most complex technological achievements. Such weapons are equipped with a wide range of advanced instrumentation and other equipment. The destructive capability of weapons, as well as their firing range, accuracy, and effectiveness of fire are rapidly increasing, and, consequently, the fire and strike power of the Ground Forces, Air Forces, and Navy are constantly improving. The utilization of newly developed conventional weapons enhances the dynamic development of combat actions and in some cases imparts a decisive character to the operation while avoiding the necessity of employing nuclear weapons.

Concurrent development and improvement of nuclear and conventional weapons not only influences the nature and characteristics of operation, but at the same time, changes the composition, structures, and organization of operational formations. It also requires reconsideration and adjustment of many theoretical and practical principles and methods of operational art, as well as the organization of issues concerning the preparation and conduct of operations and the employment of new weapons. The need to reorganize operational and combat-readiness training, and the psychological preparation of the Armed Forces' personnel tends to arise and requires troops to overcome the might of a strong enemy under difficult conditions, with or without the use of nuclear weapons. Commanders and staffs need to learn troop control methods under the most complex and difficult conditions.

The nature of operations and the theories of operational art are influenced particularly by the employment of electronic warfare means and laser weapons systems with enormous destructive power that have appeared in recent years or are under development. The theory of operational art is also influenced by the state of combat and operational-readiness, as well as the political and psychological status of the troops.

Operational art relies on the fact that constant combat-readiness of troops ensures foiling any enemy attack and guarantees the successful accomplishment of operations (combat actions) at the outbreak of war.

The most important element in the combat-readiness of troops is their combat effectiveness. This is determined by the following:

—strength of the subunits, units, and large units;
—state of their preparation for combat;
—standard of personnel morale;
—availability of material means.

A significant role in promoting the combat readiness of troops is played by the status of morale and the psychological readiness of personnel. The higher the morale of personnel and the deeper the devotion of the servicemen to their duty, the more the combat-readiness of units and large units is increased and enhanced.

In determining the proper content and course of development of operational art the nature and developmental directions of a probable enemy's theory of the art of war must be taken into consideration. Along with its strong and weak points, the enemy's theories on the conduct of combat actions are of particular significance. These facts help Soviet theoreticians to work out the most effective methods of repelling enemy aggression and ensuring destruction of enemy forces in the course of military actions.

Conditions of military geography in the TSMA should be taken into consideration where combat operations are to be conducted. Experiences of past and contemporary wars and the actual practice of organizing and preparing of the Armed Forces in peacetime are also taken into account in this process. Forgetting these experiences can put us in a precarious position and may jeopardize the process of developing operational art. Experiences of past wars should be utilized, and achievements in developing weapons and combat equipment should be considered in the process of reorganization of the troops under new conditions. Thus, proper determination of the content and

development of Soviet operational art is possible only through a deep and comprehensive analysis and assessment of a wide range of factors, based on Marxist-Leninist methodology.

All aforementioned factors, as a whole, influence the development of operational art. Through the direct influence of such factors, the prominent features of operational art in modern times are illustrated and defined as follows:

—first, the theory of operational art, as a whole, is entirely and implicitly distinguished and defined on the basis of Marxist-Leninist teachings and by laws and principles concerning the preparation and conduct of operations;
—second, modern operational art is complex, with many aspects. In operations conducted by operational formations the process of their preparation and execution is set out by operational art. Since various arms and services (*sluzhba*) organic to different services (*vid*) of the Armed Forces are participating in the conduct of operations, operational art acquires a complex nature with numerous aspects. Planning of an operation must cover all aspects, be worked out in detail, and take into consideration coordinated actions of all forces and means participating in the operation;
—third, in operational art the need and capability of utilizing all types of military actions should be taken into account. The requirements of each form should be met in theory and practice. Considering the expanded capabilities of modern operational formations, as well as the significance of saving time and seizing and retaining the initiative, the focus of operational art is on working out offensive theories and their practical implementation. But, at the same time, the other forms of combat action are not ignored. Such characteristics of operational art emerge mainly from the dynamism of the development of military affairs along with various forms and methods of conducting operations;
—fourth, in modern operational art, the role of collective initiative is increased. The extraordinary dynamic nature of contemporary combat action, as well as the need to make quick decisions about the effective employment of different types of weapons in operations (combat actions), and the

need to analyze a broad flow of information during combat, requires that a large number of officers and generals be employed as staff officers in the planning and conduct of combat actions. The commander needs their contributions in the decision-making process to provide him with timely information, calculations, and proposals. This obviously shows the importance and significance of collective actions and concepts. But still, the basic principle of troop control is always the observance of unified command and leadership.

The aforementioned characteristics, generally pertinent to operational art, are further supplemented by other specific characteristics specific to various Services of the Armed Forces in relation to their role, missions, forces and means, and methods of employment in the operation.

IV. General Principles and Considerations in the Theory of Operational Art

The general content of the theory of Soviet operational art are derived from the laws of armed struggle, and, in fact, they define the principles and methods of the preparation and conduct of operations (combat actions). They are important to the operational formations of the various Services, despite their different and separate professional nature and distinctions. In order to understand thoroughly the nature of general principles in the theory of operational art, it is necessary to review briefly the types of operational formations and their missions.

Operational formations include the following:

—*fronts*;
—military district commands;
—air and air defense district commands;
—naval fleets;
—combined arms armies;
—tank armies;
—PVO forces;
—air armies;

—independent army corps operating on independent axes;
—others.

Each one of these formations has specific missions, organizations, and forces and means. Operational formations do not have permanent organizations. Their organization and structure are determined in accordance with the nature of the TSMA, the number and significance of the missions to be accomplished, the circumstances of the operational situation, and the nature of their interaction with other operational formations.

Strategic Rocket Forces Operational Formations

Strategic Rocket Forces operational formations are tasked to accomplish the following:

—inflict losses and destruction on enemy main groupings of strategic, operational, and tactical nuclear forces;
—destroy enemy aviation units, ground forces, air defense forces, naval forces and the most important targets in the TSMA;
—destroy enemy military-economic bases;
—disrupt the function of enemy society.

Operational formations organic to the Strategic Rocket Forces accomplish their missions by launching nuclear strikes against the enemy in the framework of the plans of the Supreme High Command. Such formations foil enemy efforts or reduce enemy capabilities to launch strikes and attacks on friendly armed forces and important targets in the country. They provide favorable conditions for the conduct of operations by other operational formations organic to various Services of the Armed Forces. Nuclear strikes are launched by the bulk of the rocket forces or by a number of their operational formations and large units on vital areas and targets inside the territory of enemy allied countries. They may consist of a series of nuclear strikes. However, the initial strike, which is prepared in advance, has particular importance to the successful conduct of future operations.

Ground Forces Operational Formations

Ground Forces operational formations, along with their attached troops and the large units of other Services of the Armed Forces, are tasked to accomplish the following:

—destroy the enemy in the TSMA;
—seize enemy territory;
—repel enemy attacks;
—hold friendly territories.

Such formations are capable of independently destroying large enemy groupings with or without the employment of nuclear weapons.

PVO Operational Formations

The missions of PVO operational formations are the following:

—defend against enemy aircraft, rockets, and military space means;

—cover vital targets and units of friendly armed forces across the country against enemy aircraft, rockets, and military spacecraft.

Since rockets are the principal delivery means of enemy strategic nuclear forces, the most important task of the air defense forces is an antirocket defense capable of successfully and effectively defeating enemy nuclear rocket attacks. Another important task facing PVO forces, in modern times, will be combating enemy military space-based weapons and means. The air defense forces accomplish their missions through combat actions conducted within the framework of a unified plan, either independently or jointly with other Services of the Armed Forces, but primarily with the Ground Forces.

The operations of PVO forces become especially important in case of a nuclear war. In that case, air defense forces, together with the Strategic Rocket Forces, play a vital role in foiling an enemy nuclear attack.

Air Forces Operational Formations

The missions of aviation operational formations are the following:

—destroy enemy rocket and aviation units;
—establish air superiority;
—destroy enemy economic and communications networks;
—conduct joint actions with the Ground Forces and the Navy;
—conduct air reconnaissance;
—transport Airborne Troops;
—conduct operations in support of air troop movements;
—transport materiel means by air.

Aviation operational formations conduct combat actions by carrying out Long-Range Aviation operations and combat actions by *front* aviation.

In air operations to destroy enemy aviation units in the initial phase of war, in addition to Long-Range Aviation, *fronts*' aviation, and Naval Aviation are called upon as well.

Naval Operational Formations

The missions of operational formations of the Navy are the following:

—destroy enemy naval forces;
—destroy primarily enemy aircraft carrier task forces;
—destroy enemy submarines armed with rockets;
—foil or destroy enemy sea transportation means;
—destroy enemy coastal targets.

Naval operational formations also safeguard naval supply routes against enemy naval attacks and support the Ground Forces during their operations on maritime axes.

The basis of the Navy is nuclear rocket submarines, which are capable of launching nuclear rocket attacks against specified targets in enemy territory in order to:

—destroy his military industrial potential;
—disrupt his governmental and military troop control system;
—inflict damage on other vital targets.

Operational formations of the Navy accomplish their missions by conducting naval operations which, in terms of their aims and objectives, are classified as follows:

—operations to destroy enemy naval forces;
—operations to destroy vital targets inside enemy territory;
—operations to foil enemy naval movements;
—operations to secure and defend friendly naval routes;
—operations to achieve all or a number of the above-mentioned aims concurrently.

Operational formations of each Service of the Armed Forces accomplish specific missions through various forms of combat actions in a modern war. However, there are a number of general principles of operational art that govern all. These principles are discussed below.

Decisive Aim, Broad Scope, and Complex Nature of the Operation

These characteristics are incorporated into operational art as a consequence of broad and deep achievements in modern military weaponry that possesses enormous destructive power and striking force. Other important factors influencing this process are the following:

—capability to destroy the enemy by mass employment of nuclear weapons or conventional means only;
—expanded and increased mobility in troop movements;
—increased effectiveness of troop control;
—higher morale and training standards of Armed Forces personnel.

The decisive aim and increased scope of operations (combat actions) by operational formations of various Services of the Armed Forces are brought about by the use of strategic nuclear forces and the situational complexities caused by the enormous potential capabilities of enemy nuclear weapons. A most difficult situation will develop if the enemy attacks when operational formations are suffering heavily from his nuclear strikes.

During conventional operations (combat actions), the most complicated situation will be faced when friendly forces are

forced to repel enemy surprise attacks, and particularly in the course of fierce combat actions to repel an enemy initial attack. In such a situation, it is required that, on some axes, a temporary defensive posture be assumed to repel the attack of superior enemy forces, while attempts are made to bring forward second-echelon forces and reserves, eventually establishing superiority in forces and means.

One of the general principles of operational art in modern times is that the operations of operational formations of various Services of the Armed Forces are conducted within a strategic framework in the TSMA. Each one of the operational formations will execute its missions in close consideration of the missions of the other formations while closely coordinating with each other.

***Coordination* (vzaimodeistvie)**

The meaning and nature of coordination is harmonizing the method of action of the following:

—operational formations;
—large units;
—units;
—subunits;
—various Services of the Armed Forces;
—various arms of troops.

Objective, time, and space are considered in order to accomplish assigned missions and to achieve the aim of the operation (combat). Depending on the objectives, actions, and size of cooperating groupings of forces, the coordination can be termed strategic, operational, or tactical.

Strategic coordination is concerted action by operational formations of various Services of the Armed Forces to achieve strategic objectives. Such a level of coordination is organized by the Supreme High Command within the framework of a unified plan and concept.

Operational coordination is concerted action by operational formations to accomplish assigned missions in operations

conducted by formations on one or more operational axes. This level of coordination is usually organized on the basis of instructions of the Armed Forces General Staff and the commanders of operational formations.

Tactical coordination is concerted action by tactical units to accomplish assigned missions. This level of coordination is organized by the following:

—commanders of operational formations;
—commander of large units (divisions);
—units within combined arms and supporting arms divisions, brigades, and regiments.

The purpose is to conduct concerted actions in combat.

The most important point in operational and tactical coordination is coordinating the use of nuclear and conventional means of destruction with troop actions in order to achieve the most effective employment of all forces and assets. Each commander organizes the coordination among his subordinates to ensure the most effective use of available troops and means.

Combat-Readiness

One of the general principles of operational art is meeting the requirements of constant and high combat-readiness of the troops. This facilitates timely accomplishment of combat missions and ensures surprise action by the troops. The requirements of constant combat-readiness can be met through the general structure and organization, as well as through the preparation of armed forces.

Constant combat-readiness of the troops requires the following:

—launching initial nuclear strikes against the enemy;
—ensuring surprise action by friendly forces;
—enemy surprise attacks be forestalled and overtaken;
—developing active combat operations rapidly from the outset of the war, to seize the initiative.

The following levels of combat-readiness are defined in the Armed Forces:

—constant combat readiness;
—increased combat readiness;
—full combat readiness.

Constant Combat-Readiness is a state in which all armed forces effectively conduct their planned, routine operations, while large units, units and subunits at full strength are ready to be employed for conducting combat actions, and all other large units, units, and supporting [service] echelons with reduced strength organization are ready to be mobilized and shifted to full combat-readiness.

Increased Combat-Readiness is the state from which troops can pass to the state of full combat readiness in the shortest possible time. In this case, all large units are concentrated in their permanent military garrisons and take measures to upgrade their combat and mobilization readiness.

Full Combat-Readiness is the highest state of combat readiness to accomplish rapidly combat missions. In case of parity between the opposing forces, and even when enemy forces are superior to the friendly troops, full combat readiness facilitates surprise action against the enemy. This causes the following:

—heavy enemy losses in a short time;
—rapid changes in the relative balance of forces;
—seizure of initiative;
—provision of favorable conditions in which decisive results in the operation may be achieved.

Therefore, the friendly forces should constantly be alert and act with initiative, determination, decisiveness and quickness.

Mass Employment of Forces and Means to Accomplish the Main Missions on the Decisive Axes

This is one of the important principles of operational art and it has undergone broad changes in form in comparison with past wars. In modern conditions, due to the risk of heavy casualties

likely to be suffered with the use of nuclear weapons, concentration of masses of troops in narrow zones is not allowed and is not acceptable. Nowadays the concentration of force is achieved primarily through the following:

—launching rocket and air strikes;
—mass-employment of nuclear weapons against the enemy to change rapidly the relative balance of forces in our own favor;
—conducting rapid troop movements.

In operations conducted without the employment of nuclear weapons, establishing superiority of forces against the enemy on decisive axes requires that strong groupings of forces be concentrated for a limited period of time and, after breaking through the enemy defenses or following the accomplishment of specific missions, dispersed quickly. Wide maneuver by forces and means is another important principle of operational art that has acquired more significance now than in WWII.

Comprehensive Support of Operations (Combat Actions)

One of the important conditions for ensuring success in operations by operational formations of the various Services of the Armed Forces is detailed, thorough support of their operations. This provides favorable conditions for the troops to act and to decrease the effectiveness of enemy nuclear and conventional weapons attacks, as well as enemy forces' combat actions, and also to destroy enemy troop control. The main types of measures in support of all operational formations are the following:

—reconnaissance;
—protection of the troops and rear services' installations against attacks by enemy mass-destruction weapons;
—operational camouflage concealment, and deception (*maskirovka*);
—radio-electronic combat;
—engineer, chemical, hydrometeorologic, topogeodesic, and rear service support.

Troop Control

Another important principle of operational art is effective, reliable, and active troop control. The experience of past wars clearly indicates that success in operations depends on the following:

—availability of weapons;
—method of employment of weapons;
—status, form, and method of troop control.

V. Fundamentals of Operations By Ground Forces Operational Formations

The Ground Forces constitute an important component of the Armed Forces and play a specific role in operations conducted with or without nuclear weapons employment. The development of strategic means of war has not decreased the significance of the Ground Forces in achieving victory; instead their importance has acquired more significance.

Future local wars, as well as general nuclear wars, will be fast paced, longer, and more difficult. In such wars, final victory can be achieved only through the destruction of enemy armed forces and the seizure of his territory, which would be impossible without the employment of ground forces.

Forms of Operations, Their Objectives, and Dimensions

The Ground Forces' operational formations operating on independent axes include the following:

—combined arms *fronts*;
—combined arms armies;
—tank armies;
—army corps.

Their structures and organizations are not permanent or standard but depend on their objectives, the nature of their assigned missions, and the nature of the TSMA where the operations are to be conducted. The *front* is the highest operational formation and may be comprised of the following elements:

—three to four combined arms and tank armies;
—air army;
—army corps;
—infantry and tank divisions, and sometimes airborne divisions;
—air assault large units;
—rocket, artillery, and surface-to-air rocket units and large units;
—engineer, chemical, other combat support units and large units.

In some situations operational formations and large units of other Services of the Armed Forces may be put under the operational control of the *front*.

Combined Arms Army

This includes the following large units and units:

—rocket brigade;
—four to six motorized rifle or tank divisions;
—units and large units of surface-to-air missiles and anti-aircraft artillery;
—army aviation;
—combat support arms large units, units and subunits;
—in some cases, an artillery corp.

Tank Army

The tank army is usually composed of the following:

—tank divisions;
—motorized rifle divisions (sometimes);
—other combat and combat support arms units; and large units.

During the conduct of operations, the *front*, army, and army corps are usually reinforced by additional units and large units attached to them by higher echelons.

The availability of the following ensures their capability to accomplish any type of mission during the conduct of operations in a continental TSMA:

—nuclear rocket troops;
—various combat and combat support units;
—large units in the composition of the *front* and army;
—An air army in the composition of the *front*.

The operations conducted by operational formations of the Ground Forces are classified in terms of objective, method of execution, and scale.

In terms of objective and form of execution, operations may be offensive or defensive. On the basis of studies made of the capabilities of different forms of operations and their likely consequences and advantages, operational art establishes principles which recommend that only by the following can the objective of strategic operations in the TSMA and the overall aim of the war be achieved:

—decisive attack;
—utilizing all the weapons and combat capabilities of the troops;
—complete destruction of the enemy.

However, on individual axes, at specific stages of strategic operations, when the circumstances are unfavorable for conducting offensive operations, not only the armies but even the *fronts* can be required to take up the defense and conduct defensive operations. Therefore, while the offensive operation is the basic form of combat action in operational art, the defensive operation is taught as a temporary and forced type of combat action.

When operating on maritime axes, the *front* and army, in cooperation with large units and operational formations of other Services of the Armed Forces, can conduct seaborne assault operations or establish a coastal defense. The Airborne troops conduct airborne assault operations in which motorized rifle troops can also participate.

In terms of scale and scope, the operation is divided into *front* and army operations. *Front* operations are integral parts of the

strategic operation in the TSMA, while army operations constitute the elements of the *front* operation.

The *front* offensive operation is conducted on one strategic axis or on a number of operational axes. Its objectives can be the following:

—destruction of opposing enemy groupings, including nuclear weapons and deep (strategic) reserves;
—forestalling and overtaking the mobilization and deployment of enemy armed forces in the TSMA across the offensive zone of the *front*;
—seizing important enemy economic and political areas;
—eliminating nations allied with the enemy from the war.

In any specific situation, the objectives of the operation and the missions of the *front* are determined and specified by the commander in chief (Supreme High Command) within the framework of the concept of the strategic operation and in accordance with the situation.

The scale of *front* operations can be different depending on the following:

—aim of the operation;
—availability of forces and means;
—geographical conditions of the TSMA;
—other factors.

The scale of the operation is distinguished by the following:

—depth of the operation;
—width of the attack zone;
—average rate of advance;
—duration of the operation.

In a TSMA where sufficient lines of communications are established and the terrain is favorable for combat actions, the normal depth of the *front* offensive operation can be 600-800 km, width of attack zone 300-400 km, the average rate of advance 40-60 km per day, and the duration of the operation 12-15 days. In other theaters, particularly in mountainous TSMAs the dimensions of the operation will be wider.

Offensive operations of combined arms and tank armies are part of the *front* operation and are conducted along one of the operational axes. Normally the army conducts and accomplishes its operations in coordination with the following:

—other armies;
—surface-to-surface rocket troops;
—*front* air defense troops;
—airborne assault troops;
—Navy forces on maritime axes.

A combined arms army can conduct independent offensive operations, separate from the *front* operation, when acting under special circumstances and on a separate axis. The depth of a combined arms army's operations in normal conditions can be 250-350 km or more, while the width of its attack zone can be 60-80 or even 100 km, and in mountainous terrain it may be greater.

Defensive Operations

A defensive operation is regarded as a temporary, forced type of combat action, particularly in operations conducted with the employment of nuclear weapons. Defense will normally be conducted in support of a successful attack on the main axis. However, when nuclear weapons are not employed, the troops may deliberately take up the defense to weaken superior enemy forces, gain time for the deployment of offensive units, and prepare to pass over to the offensive.

A *front* defensive operation may be conducted at the beginning of a strategic operation, in case of an enemy attack on our country, or in the course of a strategic operation in which the enemy manages to establish superiority in forces and means on one of the axes and seize the initiative. Army defensive operations may become necessary in different stages of a *front* offensive operation, or it might be an integrated part of a *front's* offensive operation.

Missions and Objectives of Defensive Operations

Missions are assigned to the *front* by the Supreme High Command and to the army by the *front* commander within the framework of the general concept of strategic operations in a TSMA. They are also assigned on the basis of the concept of *front* operations. Missions are designed to achieve broad objectives in close consideration of the situation in the areas of action of operational formations.

The use of nuclear and chemical weapons in defensive operations, as well as the increased capabilities of the troops in firepower and maneuver, require that the defense be conducted decisively and actively, so that assigned missions are accomplished in a much shorter time than in the past. By effective employment of modern weapons and through better utilization of terrain and engineer obstacles, heavier losses can be inflicted on the enemy more quickly. The aim and missions of defensive operations are the following:

—inflicting decisive casualties and losses on the enemy main grouping of forces;
—foiling his attack;
—holding vital areas and approaches;
—gaining time for the organization of the counterattack.

Defensive operations may also become necessary to ensure economy of forces and facilitate the concentration of forces on axes where the offensive operation is to be undertaken. Defensive operations are also conducted to cover the flanks of the main strike groupings conducting offensive operations in the TSMA.

The combined arms army is assigned a defensive zone on the main axes, 100-150 km wide and sometimes wider. The army corps defends on a front 70 or more km wide. When the *front* takes up the defense, the width of its defensive zone may reach 500 km or more. In TSMAs with special conditions, the operational formations are capable of defending wider frontages.

The defense should be strong and active. Moreover, it should be established in depth with different patterns—not a single

form. The forces and means should be dispersed in the defensive area, and the fire plan, particularly the antitank fire system and air defense, should be organized in detail. In preparing defensive positions and defensive strongholds, extensive use of obstacles should be made and strong reserves (second-echelon forces) should be deployed in depth.

The depth of the army's defensive disposition may reach 100-150 km and that of the *front*, 250-300 km.

The operational formations will have a limited number of nuclear weapons in defense, and they will often be forced to attempt the repulse of enemy attack by conventional weapons and means. Sometimes, despite the limited availability of nuclear weapons, the operational formations, counting on nuclear delivery means of higher echelons employed in support of their operations, can act with greater effectiveness to foil an enemy attack. Such a mission can be accomplished nowadays at any stage of the enemy attack.

In the theory of operational art, defensive action on maritime axes is studied and considered as coastal and inland defense, or only as coastal defensive operations conducted by *front* and army (army corps). In some cases, the task of defending maritime axes is assigned to naval forces themselves, with Naval Aviation and Naval Infantry.

Seaborne Assault Operations

Seaborne assault operations are conducted to seize the following:

—islands;
—large peninsulas;
—straits;
—vital coastal areas;
—military and naval bases.

Occupation of these areas provides friendly forces with important bases and favorable conditions for better and effective utilization of naval forces, as well as for the destruction of enemy naval groupings. Such operations are conducted jointly

by Ground Forces and the Navy supported by Strategic Rocket Forces, Air Forces, and PVO Forces.

Seaborne assault operations are normally organized and conducted under the control of the *front* commander. In this particular case, the commander of the naval fleet acts as the assistant commander of the *front* for the affairs of naval units. Sometimes, seaborne assault operations can also be conducted under the control of the naval commander.

Airborne Assault Operations

Airborne assault operations are normally organized and conducted on the basis of the Supreme High Command's instructions, to exploit the consequences of nuclear strikes of the Strategic Rocket Forces and to accomplish operational and strategic missions in the rear of the enemy. In some cases, airborne assault operations may be conducted within the framework of the *front* offensive operation. The missions of airborne assault operations are the following:

—seizing vital objectives and areas in the enemy's rear;
—destruction of enemy nuclear weapons and command posts;
—assisting friendly forces attacking from the *front* in destroying enemy main groupings of forces and to facilitate a rapid advance into the depth of his territory.

The composition of forces and means assigned to conduct airborne assault operations depends on the objectives of the operation and the missions to be accomplished. The basis of the group conducting airborne assault operations are the following:

—airborne large units and units;
—motorized rifle units;
—Large units, specifically trained and prepared for the purpose.

The distance for dropping (landing) airborne assault force may reach 500-600 km from the front lines. But if the airborne assault operation is conducted in the interest of *front* objectives, the distance for dropping (landing) of the airborne assault force

may be 150-300 km. The airborne assault force and its combat actions are supported by those *front* elements, in whose areas the airborne assault force is flown or in which it is employed on ground.

Airborne units and large units assault landings in the rear of the enemy come under *front* control after linking up, or constitute reserves of the Supreme High Command.

Operational art, considering the conditions of different TSMAs, provides theoretical principles and practical recommendations concerning the employment of operational formations in mountains, deserts, northern areas (of extreme cold), and also in operations to seize and hold large built-up areas and cities, meeting engagements, and pursuit of a retreating enemy.

Operational art also provides guidelines for the preparation and conduct of combat actions in special conditions, the most significant of which are the following:

—conducting of the attack on independent axes widely separated from each other;
—determining wider areas of action for operational formations and large units;
—establishing of very deep troop dispositions.

Such guidelines cover the following:

—methods of employing nuclear weapons;
—use of combat arms and aviation;
—methods and forms of combat actions;
—nature and characteristics of troop control;
—support of combat actions.

VI. Main Characteristics and Principles of the Preparation and Conduct of Operations by Front *and Armies*

The main characteristic of an operation is the term used to illustrate the nature and content of various operations and the method of their preparation and conduct. The principles are the general guidelines envisaging the following:

—fundamentals of operations;
—preparatory measures;

—methods and forms of conducting the operations;
—organization of support measures;
—troop control.

The main characteristics and the principles of preparing and conducting operations are not fixed rules. They change continually with developments in the following:

—weapons and military equipment;
—structure and organization of troops;
—adjustments in military doctrine;
—progress of the theory of the art of war;
—preparation and training of troops.

The introduction of new and more effective weapons, primarily nuclear weapons and rockets, along with their inclusion in military organizations, the full motorization and mechanization of ground forces, and the development of their structure, has caused changes in the characteristics of operations and in the principles of their preparation and conduct.

The main characteristics and principles of modern operations conducted by operational formations of the Ground Forces are the following:

—decisive objectives and large scope of the operations;
—achievement of operational objectives through joint coordinated actions by different combat arms, *front* aviation in close coordination with operational formations, and large units of other Services of the Armed Forces;
—unified preparation for modern operations to accomplish assigned missions under a variety of probable conditions for the outbreak of future wars with or without the employment of nuclear weapons;
—surprise action and intensive struggle to seize the initiative;
—conduct of combat action across a broken front line, simultaneously on separate axes and in different depths;
—mass-employment of forces and means on decisive axes;
—wide maneuvers and accomplishment of combat missions by different methods;
—rapid and significant changes in the situation;

—large expenditure of material means in the operation;
—considerable difficulties in support and troop control.

The objective and scale of modern operations, compared with those conducted in WWII, have developed and increased rapidly and profoundly. For example, the depth of the *front's* offensive operation reached 250-300 km and on some individual axes only up to 500 km in the closing phase of WWII, while the depth of army offensive operations reached 200 km. In modern conditions, as mentioned above, the depth of a *front* offensive operation reaches 600-800 km and more. That of an army offensive operation reaches up to 350 km and more. Defensive operations are also conducted with decisive aims. The reason behind these developments are the following:

—decisiveness of the political objective of war and its requirements;
—mass-employment of nuclear weapons and other mass-destruction means;
—extensive motorization and mechanization of the troops and an increased number of combat vehicles;
—great increases in the combat capability of troops and in the effectiveness of combat support means;
—upgrading of the morale of Soviet Armed Forces personnel.

In operations conducted by operational formations of Ground Forces, a wide range of combat and combat support arms, as well as the forces and means of other Services of the Armed Forces take part. This represents an enormous number and variety of weapons and combat equipment. Each of these arms and means accomplishes specific and particular combat missions. The following are called to take part in operations:

—combat and combat support arms of the Ground Forces;
—*front* aviation;
—Long-Range Aviation large units;
—Navy elements;
—PVO forces.

Success in accomplishing operational missions is achieved only by the joint action of all combat arms and *front* aviation in

close cooperation with the operational formations and large units of other Services of the Armed Forces operating on the same axis. Therefore, operational art concentrates on, studies, and provides the rules concerning the methods and forms of coordination among the forces and means participating.

Since the likely conditions and circumstances under which future wars are to break out might be very different, it is vital that operations should be prepared in advance in such a way that they can be conducted with or without the employment of nuclear weapons under any initial circumstances, including situations in which the enemy launches a surprise attack.

The main characteristic of modern operations is the fact that combat actions are conducted across a broken front line, on widely separate axes, and simultaneously to different depths on enemy territory. This applies not only to operations conducted with the employment of nuclear weapons, but applies also to operations conducted with only conventional weapons in modern circumstances. Combat actions are carried out in widely separated areas due to the constant risk that the enemy might employ mass destruction weapons. We should also be familiar with and observe the old rule, "the brave man conquers the cities." [This is evidently a cautionary note in regard to concentrating forces in confined areas.] Therefore, we should note that a commander who attempts bold maneuvers to smash enemy flanks, to envelop him, and destroy his forces piecemeal, can achieve victory.

In modern operations, surprise and efforts to seize the initiative in action have decisive significance. Surprise action may enable friendly forces to inflict heavy casualties on equal or even superior enemy forces in a short time and rapidly to change the relative balance of forces and means to their favor. It also enables them to destroy the enemy's will to resist and to seize and retain the initiative.

Surprise and seizure of the initiative are achieved through the following measures:

—secrecy (ensuring aims, intentions, and actions are secret from the enemy);

—understanding the aims, intentions, and nature of probable enemy actions;
—conducting quick, concealed maneuvers;
—striking the enemy, particularly with nuclear and other powerful weapons, in areas not expected by the enemy;
—effectively applying operational *maskirovka*;
—strictly observing signal discipline and the rules of secret troop control;
—employing new weapons and methods of combat action not expected by the enemy;
—outmaneuvering the enemy in use of forces and means.

The principle of mass employment of men and material to accomplish vital missions on decisive axes has kept its significance in modern war. This principle is obviously not new. It was important in past wars. However, it is applicable also in modern times, but with a different pattern. Nowadays, the conditions and practical methods of the mass employment of forces and means on decisive axes are profoundly different from past wars.

In operations conducted in a nuclear war significant importance is given to mass employment of nuclear weapons and other mass destruction means on vital axes in order to inflict heavy casualties and damage on main enemy groupings and other vital targets. Under such circumstances, the mass and concentrated employment of conventional weapons to a large extent is not required, as in the past. But in operations conducted without the use of nuclear weapons, it will be required in order to establish decisive superiority over the enemy. In the latter case, rapid concentration of strike units at the decisive place and quick dispersal after the accomplishment of the mission are of significance.

Modern operations are characterized by actions with high speed movement and varying forms for the accomplishing of operational missions. High maneuverability in action is achieved through the following:

—quick preparation;
—launching of surprise mass nuclear and fire strikes on the enemy on each axis and in depth;

—rapid and frequent use of envelopments;
—turning movements to outflank enemy units;
—exploitation and rapid changes of attack axes in the depth of the enemy position area.

Another characteristic of modern operations is frequent and rapid changes in the situation during the course of the operation. Troops should constantly be prepared to deal with tasks emerging from unfavorable or unforseen conditions during operations. Depending on the situation and nature of missions in operations, troops can apply varying forms of combat actions and accomplish their missions through the use of different methods. In modern operations troops may conduct the following variations of combat actions in the course of the operation:

—tactical and operational meeting battles (engagements);
—breakthrough of the enemy defense;
—passage through wide radioactive contaminated areas and heavy destruction;
—river crossings;
—pursuit of the retreating enemy.

In the meantime, large units, units, and subunits may conduct airborne or seaborne assault operations. Some operational formations and large units may assume the defensive simultaneously and sometimes they might have to maneuver to withdraw from combat.

One of the characteristics of modern operations is the increased difficulty and complexity of combat support measures and meeting new requirements for troop control. The following combat support measures have acquired more significance:

—reconnaissance and *maskirovka;*
—engineer and chemical support.

New types of combat support measures such as the following have been introduced:

—protection against mass destruction means;
—radio-electronic combat;
—hydrometeorological support;

—topogeodesic support;
—others.

The conduct of complex and exhaustive combat actions and maneuvers in great depth with the participation of an enormous number of different combat, combat support, and specialized vehicles and equipment makes the expenditure of a huge amount of materiel means inevitable. In modern operations, heavy personnel casualties and losses in weapons and other combat equipment are inevitable. Therefore, success in operations will depend more and more on wide, effective, and calculated organization of materiel, technical, and medical support.

In operational art, significant and decisive importance is given to troop control in an operation. Troop control is the process of constant and steady guidance and leadership by the commander and staff of operational formations over actions of subordinate troops to direct their efforts for the accomplishment of assigned missions and the achievement of the aim of the operation. The specific content of troop control tasks will be determined in each operation in accordance with the conditions and characteristics of the situation.

Compared with past wars, troop control in modern operations has become complicated and the number of tasks to be accomplished have increased. The development of broad mobility and maneuverability in combat action, as well as frequent and rapid changes in the situation, require that troop control elements promptly react at any given moment.

Time has become a decisive factor in the process of troop control. It must be noted that the process of troop control and controlling weapons and means will take place under conditions of active employment of radio-electronic jamming and the use of intercept means by the enemy. It should not be forgotten that the enemy will attempt to destroy our command posts and our troop control means.

For the purpose of troop control during preparation and in the course of an operation, a continuously operating command post system is established. At the *front* and army level the following command posts are set up:

—main command posts;
—forward command posts;
—rear command posts.

In defensive operations, reserve command posts can be established instead of a forward command post. In some situations, for the purpose of troop control of elements operating on separate axes that cannot be controlled from the main or reserve command posts, auxiliary command posts are set up.

In modern conditions, the following points acquire significant importance:

—availability of such effective signal communications means which may enable the commander to maintain continuous and reliable communications with his subordinates;
—activeness and mobility of command posts;
—timely and organized manning of command posts by personnel prior to the outbreak of war and systematic relocation of command posts during operations.

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CHAPTER TWO

Front *Offensive Operations*

I. Role and Place of the Front *in Strategic Operations in TSMAs*

Aim of the Offensive Operation and Missions of the Front

In future wars strategic missions in TSMAs will be resolved, as in the past, by combined efforts of operational formations, formations of the various Services of the Armed Forces, and various arms in the context of strategic operations. They will be conducted with nuclear weapons, or by the employment of conventional means only. At the same time, war also may be initiated with the use of conventional weapons only and develop subsequently into a nuclear confrontation.

Normally, several *fronts* will participate in strategic operations. Offensive operations of *fronts* will constitute the main component of the strategic operation. The role of the *front*, i.e., the extent of its contribution to the destruction of the enemy's armed forces in a strategic operation in a TSMA, depends on the following:

—aim and combat mission of the *front* in the offensive operation;

—composition of the *front*;
—scope of the operation (depth, width, duration, rate of advance);
—relationship of the *front's* action to the aim and mission of the operation.

Moreover, the impact of the *front's* offensive operation on enemy actions, and the *front's* actions to destroy groupings of enemy forces (main groupings or other groupings, principal enemy forces or allies in the TSMA, etc.), along with the likely outcome of the *front* operation in terms of aim, time, and space, are factors which influence the role of the *front* in the strategic operation.

In strategic operations conducted with nuclear weapons the *front* must destroy the enemy's main forces. It should completely destroy surviving groupings of the enemy and must destroy enemy groupings in the depths of the TSMA that have not been hit by strategic nuclear strikes.

In modern times, a strategic operation is normally conducted with nuclear weapons. In strategic operations conducted with the use of only conventional means the *front* plays an important role in the destruction of enemy armed forces in the TSMA. In operations conducted with conventional means the *front* is required to destroy all enemy forces to the entire depth of its operational missions.

The *front* plays a very important role in actions leading to the accomplishment of the mission, such as individual operations to seize important objectives and strategic regions or the entire territory of the enemy. The *front*, as a large operational formation, has all types of combat and combat support arms in its composition, and sometimes it has units and formations of other Services of the Armed Forces. Therefore, the *front* possesses all required forces and means for the conduct of the aforementioned actions.

The place of the *front* in offensive operations in the TSMA depends on its location in the strategic deployment of the forces. The *front* can conduct operations in the context of first or second offensive operations.

The offensive operation of the first-echelon *front* has a direct and sometimes decisive effect on the success of the strategic

operation. The accomplishment of the operations of first-echelon *fronts* leads to the destruction of the enemy's main strategic groupings in the TSMA, including the following:

—nuclear missiles;
—tactical aircraft;
—supreme command;
—reserves;
—air defense aviation;
—communication zones.

When the *front* operates in the first-echelon, depending on the concept of the strategic operation, it can conduct the offensive operation on the direction of the main attack or on axes in the center or on the flanks of the strategic groupings of forces in the TSMA.

The second operational echelon normally moves to the TSMA from the interior of the country. The *front* in this echelon is normally committed in the direction of the main attack to develop the success of the strategic operation or to accomplish the strategic operation in a short time.

The *front* offensive operation can be conducted in various TSMAs and under different conditions, such as the following:

—along maritime directions, in coordination with naval forces;
—mountainous areas;
—mountainous-jungle areas;
—deserts;
—northern (arctic) areas.

The conduct of the offensive operation will have its own particular characteristics depending on the characteristics of the situation in each TSMA. In every situation the *front* is employed in accord with the aim of the operation and mission. The aim and mission may vary depending on the factors involved. The following factors primarily affect the aim of the operation and missions of the *front*:

—political aim of the war;
—concept of strategic operations in the TSMA;

—composition of the *front*;
—enemy groupings of forces and the nature of his likely action.

The political aim of the war emerges directly from the state's politics. War is the continuation of politics by other means, particularly by forceful means. State politics determines not only the general aim of the war, but also directly influences the process of determining the aim and concept of strategic operations, as well as the aim and missions of the *front* operation.

During the process of determining the aim and mission of *front* offensive operations the following elements are closely examined and assessed:

—deployment of enemy forces in the TSMA;
—foreign and domestic policy of each enemy nation and enemy allies located in the area of the *front's* offensive operation;
—differences among enemy nations, such as economic, territorial, and other differences and disputes.

The content of the aim of the *front* operation is also affected by the international duty and commitments and liberating missions of the Soviet Armed Forces. The concept of the strategic operation directly affects the aim of the *front* strategic operation. In the aim of the operation the *front* considers the following:

—what enemy groupings must be destroyed, in what sequence, and in what form;
—what enemy territory must be seized, and when.

The composition, grouping, and degree of readiness of the enemy forces in various TSMAs, and on each direction, might be different. For instance, in the Western TSMA the main groupings of NATO armed forces include the following:

—ground forces with nuclear weapons;
—tactical aircraft;
—many naval formations.

All of these forces are prepared, equipped, and trained to conduct decisive actions. They are prepared for maneuverability

during combat operations under various conditions, with or without the use of nuclear weapons. The destruction of enemy allied forces requires specific superiority of forces and means, as well as extremely wise and effective skill from the Warsaw Pact forces. It must be noted that the potential enemy in this theater has enormous capacity and capability for mobilization. Moreover, the enemy can reinforce its forces in this theater by maneuvering forces from other strategic directions and moving forces from other continents. The enemy posture in other TSMAs will be different in terms of structure, organization, technical equipment, degree of combat-readiness, and character of actions. The characteristics of the enemy's composition in the theater and in the directions of the attack definitely affect the aim of the operation and the nature of the missions of the *front.*

Combat capability and field training of the *front's* troops, their formation for operations (*operativnoe postroenie*),morale of personnel, materiel supply level, physical and geographic characteristics of the TSMA, significance and dimensions of the theater, and other factors will greatly influence the aim of the operation and the content of the mission.

Aims of the Front *Offensive Operation*

Some of the aims of a *front* offensive operation are as follows:

—destroying enemy groupings of rocket-nuclear means;
—destroying ground and air forces;
—foiling enemy mobilization actions;
—seizing important territorial areas;
—ousting certain enemy allied nations from the war.

The aim of the offensive operation must be the same for operations with or without the use of nuclear weapons. The aim of the offensive operation with the use of nuclear weapons is achieved by the following:

—nuclear strikes of rocket troops and *front* aviation, combined with the strikes of conventional weapons, on important targets in the groupings of enemy nuclear means, ground and air forces, and other enemy targets;

—timely exploitation by the *front's* forces of the results of the strikes of strategic nuclear forces, as well as quick and continuous attacks of *front* forces.

The aim of the *front* offensive operation with the use of conventional weapons only is achieved through employing all firepower means, such as artillery and air forces, to destroy enemy groupings successively, along with decisive attacks by the *front's* operational formations and large units, as well as through constantly expanding strikes against the enemy and developing attacks in assigned directions.

To achieve the specific aims of the offensive operation, the *front* is assigned a mission during the initial nuclear strike, an immediate mission, and a subsequent mission.

Content of the Mission During the Initial Nuclear Strike

This includes the destruction of the following:

—enemy operational-tactical means;
—enemy's main grouping;
—air force and air defense troops;
—important command posts;
—rear service installations (targets).

The Supreme High Command may instruct the *front* on the depth of the *front's* initial nuclear strike and specify the boundary between strategic nuclear strikes and *front* nuclear strikes.

***Content of the Immediate Mission of the* Front**

The content of the immediate (*blizhaishaia*) mission of the *front* are the following:

—destruction of enemy nuclear weapons;
—destruction of his tactical aviation;
—seizure of areas and vital targets.

These steps will destroy the operational stability of enemy defenses and the bases of his aviation forces. This will create favorable conditions for the *front* rapidly to develop the attack

to the depth of the TSMA. The depth of the *front's* immediate mission can be 250-350 km or more.

Content of Long-range (Dal'neishii) *Missions of the* Front

The content of the long-range [or "subsequent"] mission of the *front* is the following:

—destruction of newly detected enemy nuclear weapons;
—destruction of enemy deep reserves;
—seizure of objectives and areas in the depth of enemy territory, the occupation of which will facilitate the achievement of the aims of the operation. The depth of the long-range mission depends on the overall depth of the operation and can be 350-500 km.

Depending on the situation and the content of the immediate and long-range missions of the *front*, the following seizures can be made:

—political and administrative centers;
—national capitals;
—vital industrial areas;
—with the cooperation of other *fronts*, the elimination of individual enemy allies in the TSMA.

During coastal operations the content of *front* missions will include the following:

—destruction of coastal groupings of enemy forces;
—seizure of peninsulas;
—seizure of straits;
—seizure of naval ports (bases);
—seizure of other important targets on the coast;
—establishment of defenses on occupied coasts as forces move deeper into enemy territory.

During the conduct of offensive operations in mountainous areas, particular importance is given to destroying individual groupings of enemy forces deployed in areas leading to road junctions, mountain passes, defiles, and other vital targets.

Seizure of these areas will provide friendly forces with vital outlets and openings to emerge into wide valleys, plains, and vast open areas.

Scope of the Operation

Principal indices of the dimensions of offensive operations are the following:

—depth of the operation;
—width of the operation;
—tempo of the attack;
—duration of the operation.

The *front* offensive operation will have the following dimensions depending on the military and political aims of the strategic operation, availability of forces and means of the *front*, groupings of enemy forces, conditions in the TSMA, and other factors:

—depth: 600-800 km or more;
—average speed of attack: 40-60 km per day;
—during attacks against enemy prepared defenses: 25-30 km per day, increasing to 60-70 km per day during development of the attack;
—duration of the attack: 12-15 days;
—width of front of the area of attack: 300-400 km.

***Composition of the* Front**

The composition of the *front* is determined in accordance with the aim of the operation and the mission of the *front* in the operation.

As the experience of the Great Patriotic War indicates, the main factor in determining the combat composition of the *front* is the need for sufficient forces and means to accomplish assigned missions. This would provide for establishment of the required superiority of forces and means over the enemy, particularly in the direction of the main attack, and the capability to expand the effort in the course of the operation.

A modern *front* is composed of the following:

—three to four armies, including tank armies;
—three to five reserve divisions (separate divisions);
—one air army (two to three fighter aviation divisions, one to two fighter-bomber aviation divisions, one bomber aviation division);
—one to two surface-to-surface rocket brigades;
—one artillery division;
—antitank artillery units;
—air defense rocket units;
—artillery units and large units;
—other combat support troops and services.

Depending on the *front's* missions, an airborne division can be attached to conduct airborne assault actions.

Given the above composition of the *front*, it will have the following forces and means:

—22-25 divisions, including 8-10 tank divisions;
—160-180 surface-to-surface operational-tactical and tactical rocket launchers;
—4,100-5,700 artillery pieces and mortars;
—6,200-7,100 tanks;
—Over 2,000 antitank artillery guns and rocket systems;
—6,200-7,000 BTRs and BMPs;
—600-800 combat aircraft, including 400-500 with nuclear capability.

The composition of the *front* provides for the establishment of a strong and powerful strike grouping of forces in a short time. The conduct of the offensive operation with decisive aims, in great depth, and at a high speed of advance is also provided for.

On the basis of this composition, the *front* can concentrate, for the initial nuclear strike, 250-330 nuclear delivery means, including 100-130 operational-tactical and tactical rocket launchers, and 150-200 aircraft with nuclear capability. By using these means, the *front* can destroy in its sector during the initial nuclear strike, the following enemy forces:

—all disclosed nuclear means;

—10-12 divisions;
—nuclear munitions depots;
—command posts of corps, armies, and groups of armies;
—important warning, guidance, and control centers of air defense forces;
—inflict losses on tactical aircraft on the airfields;
—suppress the bulk of air defense rocket systems.

In terms of concentration of artillery pieces, the *front* can conduct, in areas designated for penetration, on a total frontage of 27-30 km, 90-110 artillery pieces and mortars per kilometer of front. In terms of tanks the *front* can concentrate in penetration areas of motorized rifle divisions 40-50 tanks per kilometer of front. This figure increases to 60-70 tanks per kilometer of front in the penetration area of the tank army.

On the basis this calculation, the density of forces and means insures the establishment of the required superiority of forces and means over the enemy and the successful accomplishment of assigned missions, even without the use of nuclear weapons.

The air defense means of the *front* are meant to resolve satisfactorily and reliably all tasks related to the repulse of enemy air sorties at all altitudes.

The effectiveness of air defense means organic to units and subunits must also be taken into consideration. The *front's* air defense forces and means are capable of destroying 15-20% of total enemy aircraft participating in a massive air strike while repelling it.

In assessing the combat capabilities of the *front*, the decisive role of the men, their morale and psychological status, and their aggressive advantages must be taken into account. Obviously, high morale constitutes an important factor in the assessment of the combat capability of the troops. The missions of the operation are accomplished ultimately by using weapons and combat equipment. Therefore, we continue to emphasize the following:

—high troop morale;
—troop sustainability;
—unshakable resolution;
—strong will to achieve victory;
—high combat training.

The aforementioned have and will continue to constitute the pillars of success and achievement of victory.

II. Preparation of the Front *Offensive Operation*

Conditions and Contents of the Preparation for Offensive Operation

Preparation of the *front's* offensive operation is a collection of measures taken by the commander, staff, chiefs of combat and combat support arms and services, political organs, and rear service troops and organs on organization, planning, and all-around support of the operation.

The principal measures for preparation of the *front* offensive operation are as follows:

—making the decision and planning the operation;
—conveying missions to the troops and organizing of coordination;
—preparing attack staging areas (*iskhodnie raioni*), command posts, and signal communications systems;
—procuring and stockpiling of materiel supplies;
—organizing and conducting of political affairs;
—organizing of all types of supporting measures and troop control for the operation;
—preparing troops for combat action under whatever different conditions may prevail at the outbreak of war;
—maintaining constant high combat-readiness of troops for the conduct of assigned missions.

The initial data constituting the basis for preparation of the offensive operation are the following:

—aim of the operation and missions of the *front* specified in the directive of the General Staff;
—actual composition of forces and means;
—assessment and evaluation of all information about the situation.

The *front* prepares its initial offensive operation to be initiated at the outset of the war in advance during peacetime. The *front*

conducts preparation for subsequent operations during the war, in the course of accomplishing missions in the preceding operation. All measures connected with the preparation of the offensive operation must be carried out with strict observance of secrecy and safeguarding the concept of the operation.

Making the Decision

The decision of the *front* commander for the offensive operation constitutes the basis for all measures related to the preparation and conduct of the operation. The *front* commander must concentrate all of his talent, ability, and art to make a decision that will be rational in all aspects. This is achieved only through a clear understanding of the concept of the superior commander, a close and accurate study of the aims and missions of the *front's* operation, all-around assessment and evaluation of the situation, and conducting operational forecasting.

Clarification of the Mission

Clarification of the mission includes an understanding of the following:

—proper and accurate understanding of the aim and missions of the *front* offensive operation;
—role and place of the *front* in the strategic operation in the TSMA;
—missions of adjacent *fronts*, and operational formations, and formations of other Services of the Armed Forces and conditions of interaction with them.

Assessment of the Situation

The estimate of the situation includes assessment of the following:

—enemy forces;
—friendly forces, including adjacent forces;
—terrain and geographic situation;
—radiation, chemical, and biological situation;

—national and class composition of the population in the area of operations, their status and economic relationship with friendly forces;
—economic situation;
—hydrometeorologic situation, weather, season, and day and night astronomical data.

During the assessment of each one of these factors, the *front* commander evaluates to what extent these factors affect the accomplishment of the missions. He determines the optimum form of the employment of his forces and means, consistent with the assessment of the situation.

Assessment of the Enemy

During the assessment of the enemy the *front* commander must evaluate enemy capability in the use of nuclear and conventional weapons. He should disclose the composition and grouping of the enemy forces, likely intentions, concept and character of the enemy's actions, and enemy weak and strongpoints. On the basis of this assessment the *front* commander determines the following:

—main groupings of the enemy forces and the forms of their destruction;
—most favorable direction for the main attack and other attacks;
—enemy weak and strong points;
—targets for initial nuclear strikes;
—requirements for establishing the superiority of forces and means over the enemy in the direction of the attack;
—other related matters.

Assessment of Friendly Forces

Assessment of friendly forces must include evaluation of the following:

—combat composition and operational situation of the operational formations and large units;

—status and strength level [personnel, equipment] of the operational formations and other formations;
—availability and time of delivery of nuclear rounds and rockets;
—situation and status of rear services;
—characteristics of the action of adjacent forces and conditions of coordination with them.

Other Factors

Other factors of the situation are assessed in connection with the nature and characteristics of operational missions. Operational decisions are made at the conclusion of the clarification of the mission and all-around assessment of all factors of the situation. The *front* commander specifies the following points in his decision for the offensive operation:

—concept of the operation and, accordingly, the tasks, targets, and method for use of nuclear weapons;
—missions of combined arms and tank armies (corps), rocket and artillery troops, air defense troops, air army, airborne assault airborne units and large units, various types of reserves, and, during operations along the coastline, missions of seaborne assault troops.

Moreover, the *front* commander specifies important issues to be included in the organization of coordination, supporting measures of the operation, and troop control.

Concept of the Operation

The basic elements of the concept of the operation are the following:

—the main groupings of enemy forces and the forms of their destruction;
—direction of the main attack;
—direction of other supporting attacks;
—formation for operations of the forces.

In modern times all of these issues must be determined in close consideration with achieving the following missions:

—repulse of possible enemy attacks;
—destruction of opposing enemy forces;
—achievement of the aim of the operation with or without the use of nuclear weapons.

Selecting of the direction of the main attack and other attack directions along with determining the number of attacks and the method of concentration of efforts of the troops are some of the most crucial issues addressed in formulating the concept of the operation.

The number of attacks (strikes, blows) in *front* offensive operations is determined by the capability of the *front* to establish decisive superiority over friendly forces and means on the specified directions of the attack. Given the composition and combat capability of the *front* in contemporary times, it can often launch attacks on two directions during the initial offensive operation. Sometimes it can attack on three directions. One of these directions will be the direction of the main attack. The main effort is concentrated on destroying enemy groupings of forces and seizing vital enemy areas in the direction of the main attack.

The direction of the main attack is normally specified to the depth of the immediate mission and, sometimes, to the entire depth of the operation. Directions of other attacks are determined in support of the main attack and destruction of the main enemy groupings. Launching an attack on supporting directions insures their piecemeal destruction.

The *front* establishes groupings of forces and means on the direction of supporting attacks that are capable of establishing on their own the required superiority over the enemy leading to his destruction at high speed, with or without nuclear weapons.

In operations conducted with nuclear weapons the destruction of enemy groupings, including his nuclear weapons, is generally achieved by use of nuclear weapons. Therefore, the need for superiority over the enemy and dense concentrations of artillery, tanks, and infantry troops on the specific directions of the attacks will not arise.

However, in resolving combat missions during offensive operations without nuclear weapons, establishment of a density of forces and superiority over the enemy in conventional weapons is required. In determining the directions of the main and supporting attacks, as well as in the establishment of the groupings for *front* forces, the need to create conditions for enemy destruction, not only with nuclear weapons, but without the employment of the nuclear weapons, must be taken into close consideration.

The establishment of superiority in forces and means over the enemy obviously entails concentration of forces and means in relatively narrow sectors of the *front*. This makes them dangerously vulnerable because they are easy targets for enemy nuclear weapons. In order to reduce the likelihood of sustaining losses in the face of enemy fire, the following must be done:

—friendly strike groupings are dispersed across the *front* and in depth;
—troop staging areas (*iskhodnyi raion*—IR) must be fortified by engineer works;
—troops must be camouflaged;
—personnel and combat equipment must be sheltered in covered positions.

The movement of *front* forces for the attack must be conducted from dispersed positions in the IR. They must deploy for the attack from the line of march as they approach enemy lines. Dense groupings of forces are created only during the conduct of the penetration (breakthrough) of the enemy defenses by moving units and large units from dispersed assembly areas along converging directions to narrow sectors of penetration. As the area of penetration expands in the depth of enemy defenses, such dense groupings rapidly disperse to the flanks and advance at high speed to the interior of enemy defenses.

Front *Formation for Operations* (Operativnoe Postroenie)

The formation for operations of *front* forces in the offensive operation is established on the basis of, and in compliance with, requirements of the missions assigned to the *front*. It must

comply with the concept of the operation. The formation's design must ensure that the *front* can establish strike groupings and constantly expand its efforts in the directions of attack. [See figure 1 for an illustrative *front* formation for operations. See the appendix for additional illustrations of *front* offensive operations.]

In offensive operations the *front* normally deploys its formation for operations in two echelons and also has combined arms reserves. Other elements of the *front* for operations formation include:

—air defense troops;
—*front* aviation;
—airborne assault troops;
—seaborne assault troops (during the attack along maritime directions);
—various other reserves.

The *front's* first-echelon includes combined arms and tank armies. However, when the combat action is conducted without nuclear weapons, the tank army is better kept in the second-echelon.

Missions

Missions of *front* forces are assigned in accordance with the concept of the operation. During the assignment of missions to first-echelon armies, the following points are specified:

—combat composition, attached and supporting means;
—direction of the main attack;
—immediate and long-range missions;
—number of nuclear and conventional rounds to be used;
—enemy targets in the army's sector which are to be destroyed by *front* nuclear delivery means;
—missions of adjacent armies, method of coordination with them, and boundaries with adjacent forces;
—deployment of command posts.

The immediate mission of the army can be the destruction of enemy first operational echelon forces (main forces of enemy

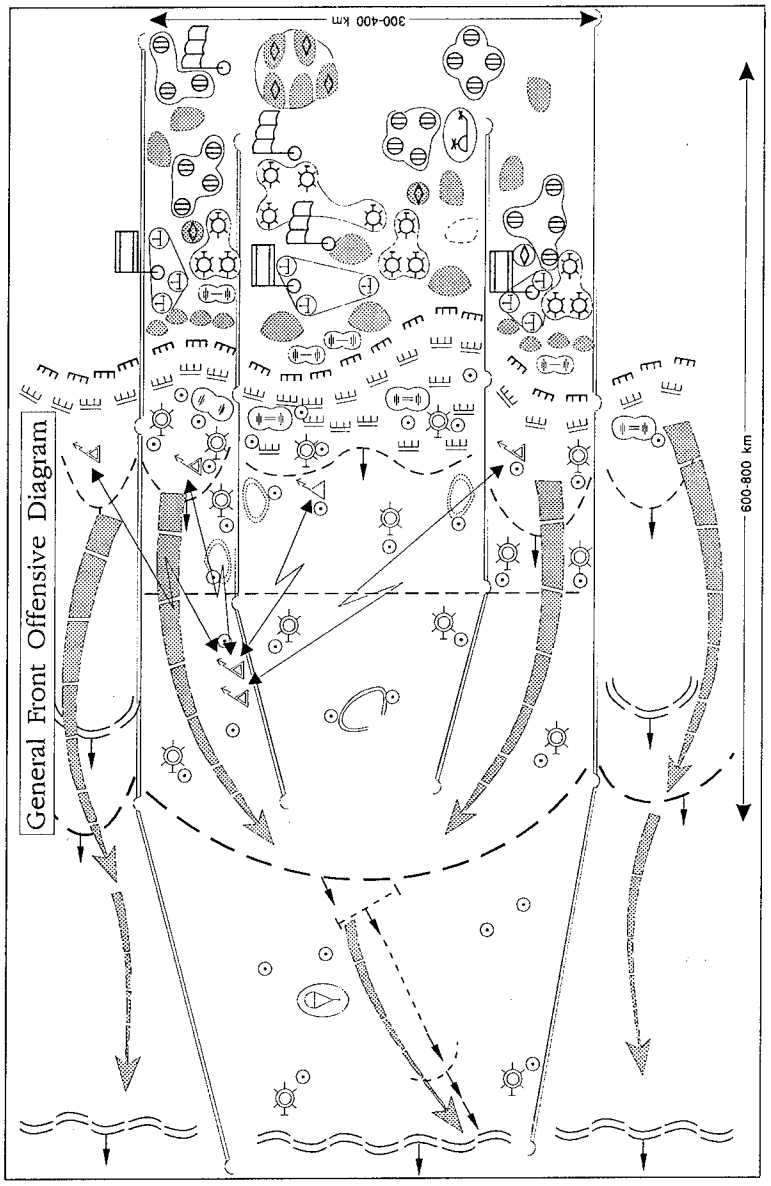

Figure 1

first-echelon corps and the enemy's immediate reserves). The depth of the immediate mission of the army can be 100-150 km or more.

The long-range mission of the army is the destruction of enemy troops, reserves, and seizure of areas, the attainment of which will insure the achievement of the aim of the operation. The depth of army long-range missions can be 150-200 km beyond the immediate mission.

Front rocket troops are assigned the following:

—targets to be destroyed during initial massive nuclear strikes;
—number and yield of nuclear weapons to be used against each target, type of explosion, time of readiness for fire (launch), and preparation and time of delivery of nuclear and conventional warheads;
—measures to preserve constant combat readiness of rocket troops for delivery of nuclear strikes;
—method and time of deployment of rocket troops for the initiation of the operation and their movement and relocation during the operation.

During assignment of missions to artillery, the groupings of the artillery, method of the conduct of the preparatory fire, assault support fire, and artillery missions during the conduct of the operation must be specified.

The air army is assigned the following:

—missions during the initial nuclear strikes of the *front*;
—missions during participation in the strategic air operation to destroy enemy aviation groupings in the TSMA and establishment of air supremacy (if such an operation is to be conducted);
—missions during attack preparatory and assault support fire;
—distribution of sorties to missions.

The second-echelon army of the *front* is assigned the following:

—area of concentration in the IR and method of its occupation and improvement with engineer works to insure covered accommodation of the troops;

—areas of responsibility to resist enemy airborne assault troops, enemy reconnaissance, and spies;
—form of movement at the beginning of the attack;
—areas or lines of commitment into combat, the direction of the attack (blow), and possible missions;
—supporting means to be attached to the army during its commitment into combat and targets to be destroyed by *front* nuclear delivery means and *front* aviation in the sector of army attacks.

Air defense troops are assigned the following:

—which groupings of forces and rear service installations to cover by main air defense efforts at the beginning and during the conduct of the operation;
—method of repelling enemy air strikes;
—method of coordination with fighter aviation, National PVO operational formations and other large units;
—composition of duty (*dezhurnyii*) forces and means;
—method of deployment of air defense large units and units at the beginning of the operation and their maneuver during the operation.

Airborne Troops are assigned the following:

—composition of each assault landing force;
—areas, time, and means of landing;
—combat missions during actions in the enemy's rear;
—method for delivering nuclear and air strikes on enemy targets in drop zones, landing areas, and areas of the assault's combat action;
—coordination with aviation and *front* forces attacking from the front;
—staging areas, times of occupation, and times of preparation of each assault landing force to be dropped (landed);
—organization of command and control.

Seaborne assault troops are assigned the following:

—composition and missions;
—time, place, and method of landing on enemy occupied coasts;

—method of support by ships and aviation during the landing and subsequently;
—assembly areas, embarkation areas, and the time to prepare for the assault landing;
—provisions for security during embarkation of ships, during movement on the seas, and methods of coordination with naval forces, rocket troops, aviation, and forces conducting the attack along the maritime direction.

The *front* commander must specify the following:

—composition and missions of *front* reserves, areas of their deployment, and method of their movement (relocation);
—time and place of deployment of command posts and the direction of their advance.

The *front* commander also specifies the missions and tasks of political affairs and issues instructions on organizing and executing measures related to Party and political affairs. Also specified is the preparation of personnel for the operation in terms of morale and psychological matters.

In his instructions to the chief of staff and chiefs of arms and services, the *front* commander specifies the method and sequence for the following:

—planning the operation;
—disseminating missions to subordinates;
—organizing coordination;
—maintaining high combat readiness of the troops;
—organizing comprehensive support measures;
—ensuring troop control.

Planning the Operation

Planning is an important component of preparation, which insures the following:

—unified and proper direction for the conduct of the operation;
—clear perspective and consistency in combat actions;
—effective and wise employment of forces and means;

—efficient use of materiel and technical means;
—resources for successfully accomplishing the mission and achieving the aim of the operation.

Planning the operation is conducted by the *front* staff on the basis of the *front* commander's decision and his instructions. During planning all issues and details of the commander's decisions are thoroughly organized as follows:

—sequence and form of execution for each operational mission;
—effort of troops and consumption of materiel reserves in each mission and on each direction of the attack;
—method of coordination among the troops during the mission;
—issues relating to political and Party affairs;
—combat support measures;
—troop control.

Planning an offensive operation is conducted in terms of the *front's* missions. This means that the planning activity itself is organized in the time-phased sequence of the operation. This sequence considers in turn the method for accomplishing the mission to deliver the initial nuclear strike, the immediate mission, and then the long-range mission with or without nuclear weapons.

The method of action of forces and means during the conduct of the immediate mission is planned in greater detail than the long-range mission. The most detailed planning concentrates on the actions of forces and means during the first days of the operation. The method of conducting the long-range mission is planned in general terms.

During the planning of the initial nuclear strike, the method for destruction of detected enemy nuclear delivery means is calculated to inflict decisive losses on enemy troops, his aviation, air defense means, and command posts. Other targets within the area of the *front's* offensive operation are also determined. The initial nuclear strikes against enemy targets are planned up to the boundary line of strikes of strategic nuclear forces, which is located 250 km or farther from the front line (*peredo voi krai*).

The possibility of planning the delivery of strikes on enemy targets in the entire depth of the *front* is not excluded.

During the planning of the initial strike the number of nuclear weapons to be used against each designated target is calculated and specified. During this process the following points are specified:

—which large units (units) deliver strikes against which targets;
—center of each explosion;
—number and yield of nuclear rounds to be used on each target;
—altitude of air bursts;
—security distance between friendly troops and the center of nuclear bursts.

During the planning of the initial nuclear strike the graphics of its execution are worked out. The main tasks of the nuclear delivery means are specified. Allocation of the nuclear rounds in terms of *front* missions and operational formations of the *front* are detailed.

Actions of first-echelon armies are planned in terms of time, lines (area), and form of accomplishment of the immediate and long-range mission. Planning is in a more detailed form for the depth of the *front's* immediate mission. For the phase of conducting long-range missions of the *front*, the first-echelon armies are assigned the following:

—direction of attack;
—seizure of specific lines (areas);
—approximate action for destroying the approaching reserves of the enemy as well as the groupings of forces remaining at the end of the operation.

During preparation for offensive operations details like the following are closely considered and thoroughly organized:

—movement of troops;
—deployment in the FUPs;
—engineer work in these areas;

—measures to insure timely initiation of the attack by the troops.

Depending on the likely character of enemy actions and likely form of the initiation of the operation, plans to meet these conditions consider the following:

—meeting engagements;
—penetration (breakthrough) of the enemy's forward defense line;
—actions to repel the enemy's likely attack;
—forms of destruction of the enemy's covering troops and his main groupings.

For all of these forms of action, the method of conduct of preparatory fire and deployment of artillery is organized. While planning the forms of conduct of each one of the missions, the important issues are as follows:

—careful designation of the composition of forces;
—method of action to inflict losses on enemy nuclear weapons at the beginning of and during the attack.

This does not depend on the type of weapon (nuclear or conventional) used in the operation, but is done under any condition.

To destroy rocket systems, nuclear bombers, nuclear weapon depots, nuclear mines, and other targets, specific aviation and artillery troops are allocated. Actions are launched by reconnaissance and diversionary groups, airborne assault troops, and special detachments from motorized rifle and tank troops.

Expecting enemy surprise attacks, the measures regarding coverage of the deployment of the *front* forces main groupings must be organized in detail while planning the operation. For this purpose the following points are determined:

—most likely direction of enemy attack;
—composition of forces and means assigned for covering missions (in general and on each likely direction of enemy attack);

—lines and areas occupied and held by troops assigned to conduct covering missions, methods of their movements, and conduct of combat actions;
—measures regarding support of covering troops by artillery and aviation, method of coordination of covering troops with border troops and forces of first-echelon armies.

While planning the operation, detailed contents of the action of troops in the entire area of operation in terms of different directions are worked out. The following are also evaluated and assessed:

—effectiveness of nuclear and conventional weapons;
—required density of artillery, tanks, and infantry battalions in the penetration areas;
—structure and required duration of artillery preparatory fire;
—form of attack support fire;
—capabilities for destroying the air enemy;
—requirements for air defense means.

Plan of the Offensive Operation

Planning is realized in the plan of the offensive operation. The plan is the formulation of the decision which is marked on a map with written instructions and necessary calculations and assessments.

The plan of operation is prepared on the map or worked out in written form with a map annex reflecting the *front* commander's decision. The plan of offensive operation is worked out by the *front's* chief of staff or the chief of *front's* Operation Directorate.

When the plan of the operation is prepared in a graphic form, it is shown on a 1/500,000 or 1/200,000 scale map. The map-form plan shows the following:

—enemy groupings of forces and means and the character of his likely actions;
—formation for operations of the *front* forces in the staging area;

—*front's* immediate and long-range missions, their content, their depth, time of accomplishment, and speed of attack;
—direction of the main and other attacks;
—penetration areas to break through enemy defenses;
—missions and targets of nuclear weapons during the initial nuclear strike conducted by *front* rocket troops and the *front* air army;
—the boundary separating areas of nuclear strikes delivered by strategic weapons and *front* means;
—directions of attacks and missions of armies (corps) showing times of their accomplishments and boundaries;
—method and form of commitment of second-echelon troops into combat;
—composition, missions, areas, and times of dropping (landing) of airborne and seaborne assault troops;
—deployment of command posts of the *front* and armies at the beginning of the operation and their movement during the operation;
—boundaries with adjacent armies of other *fronts* and missions of these armies.

Moreover, the scope of the operation is shown on the map.

All other information, calculations, and guiding data are described in written instructions.

Written instructions and details usually include the following:

—assessment of the enemy situation, capabilities, and intent;
—combat composition of the *front* and its capabilities;
—correlation of forces and means;
—aim and concept of the operation;
—availability, time of delivery, and distribution of nuclear, special rounds, and materiel supplies;
—distribution of forces and means;
—distribution of aircraft sorties among missions and armies;
—method of providing security for friendly troops during nuclear strikes;
—method of conducting attack preparatory, supporting fire, and other related instructions.

When the plan of the offensive operation is prepared in written form, the content and order of their presentation are as follows:

—deductions from the clarification of the mission and assessment of the situation;
—aim and concept of the operation;
—missions and methods for the use of nuclear and conventional means of destruction;
—missions of first-echelon armies, missions of second-echelon troops, airborne and seaborne assault troops, reserves, and methods of their action;
—missions and forms of combat employment of rocket and artillery troops;
—missions and methods of combat actions of the air army;
—missions of air defense troops and methods of repelling enemy air attacks;
—method of coordination among troops;
—measures for all-around support of the operation;
—missions and methods of the conduct of Party and political affairs;
—organization of troop control and signal communication.

The annexes to the plans of *front* offensive operations include the following:

—plan for the initial strike of the *front*;
—plan for preparing and occupying the FUP for the attack;
—plan for operational *maskirovka*;
—plan for employing airborne (seaborne) assault troops;
—political affairs plan;
—other plans and documents.

The chiefs of arms and services and the air army staff prepare plans for the combat employment of the combat and support arms, combat action of the air army, and plans of all types of support measures. All of these plans are worked out on the basis of the decision of the *front* commander.

The plan of the initial nuclear strike is prepared by the Operations Directorate along with the chief of rocket and artillery

troops and the air army staff, under the direct supervision of the chief of staff. The plan is graphically depicted on a 1/500,000 or 1/200,000 scale map with an annex of written instructions and a graphic for launching the initial nuclear strike.

The plan of preparation and occupation of the IRs by *front* forces is an important required document. It provides for measures ensuring the activeness and survival of *front* forces and means against enemy strikes prior to the initiation of the operation and constant readiness of the troops to repel enemy surprise attacks and his invasion, with or without nuclear weapons.

The plan should be prepared on a 1/200,000 scale map with a written annex and a graphic of the arrival of troops at the IR. On the map portion of the plan of preparation and occupation of the IR, the following matters are depicted graphically:

—location of permanent military posts [assembly areas occupied at the alarm signal by the troops] of large units and headquarters;
—IRs;
—directions of arrival (movement) of troops to the FUP;
—composition of forces and means assigned to cover troops and directions of their approach (movement) to specific covering lines and positions;
—system of engineering fortifications at lines, areas, and positions;
—areas and lines for establishing engineer obstacles and demolitions;
—other details.

The written portion of the plan includes the following:

—assessment of likely enemy actions and the most probable directions of his attack;
—composition and mission of covering troops;
—mission of troops in the main groupings of forces for repulse of enemy surprise attacks;
—principal measures on engineer support in the FUP and approach areas;
—engineer troops assigned to conduct such measures;

—time and method of arrival (movement) of formations and units to the IRs.

A separate graphic of the arrival (movement) of the *front's* forces and occupation of the FUP by them can also be prepared.

Content, form, and preparation of plans for the combat employment of rocket and artillery troops, air defense troops, combat actions of the air army, plans for all types of combat support measures, organization of command posts and signal communications, and the plan for political affairs are discussed in the related subjects of instruction.

Planning a *front* offensive operation is very complex work in the context of the *front's* field troop control operation. It requires harmony in action and steady guidance on the part of the chief of staff, the staff, and the *front* commander.

Planning is based on objective and realistic calculations of the capabilities of friendly and enemy forces. It must be built on forecasts of developments in combat actions and should provide for effectively coordinating the employment of all forces and means, particularly nuclear weapons.

The major role in organizing of the plan of the operation is played by the Operations Directorate of the *front*. The Operations Directorate works in close cooperation with the chiefs of arms and services, and the staff of the air army.

In order to ensure procedural organization in preparing the required data for making the decision, preparing all documents related to the operation, and accomplishing of other necessary tasks, it is recommended that a calendar plan be worked out. Such a plan reflects time for accomplishment and the executing elements involved in conducting all necessary measures. Included are documents for the plan of operation, the time to be reviewed by the chief of staff, and the time to be approved by the *front* commander. Calendar plans for preparing the operation can be prepared graphically.

Preparing the Troops and IRs Prior to the Initiation of Military Action

Along with the decision and working out the plan of operation, a great deal of organizational work, requiring much time,

must be conducted by the commander, staff, and field troop control organs of the *front*. This involves the following:

—preparing generals and officers;
—conveying missions to the troops and organizing of coordination among them;
—conducting reconnaissance;
—conducting combat, political, and operational preparation of the troops and staff;
—conducting engineer work in the IRs;
—preparing and deploying the rear services;
—preparing of troop control and all-around combat supporting measures, in the interest of troop combat actions during the operation.

During preparation of the initial operation of the *front* the missions of troops are normally specified in advance during peacetime. The method of disseminating of missions to the executing elements is determined by the General Staff. In order to maintain and safeguard secrecy of the concept of future operations, only a limited number of staff are briefed on the missions of the troops and then only in matters related to their respective functions. Those will include primarily the chief of staff and chiefs of combat and service departments of the staff.

The operational plans of the armies can also be worked out in the military district (group of forces) headquarters. In preparing army operational plans operations groups of the respective armies, headed by the army commander, can participate with the approval of the General Staff.

The army commander will personally receive his missions in the military district (group of forces) headquarters. The summary of *front* operational directives or plans for the offensive operation of the army are placed in sealed envelopes bearing the seal of the military district (group of forces) headquarters. They are kept and safeguarded in the army commander's safe. These envelopes can only be opened when a designated signal is received or by instructions of the military district (group of forces) commander.

The missions down to the level of commanders of large units and units normally are not conveyed in peacetime. However, operations orders, including the missions of the large units and units (sealed by the military district or group of forces, *front,* or army) are kept in the personal safes of the commanders. They can only be opened by signal or by order of the military district (group of forces) headquarters.

In case of drastic changes in the situation, readjustment and confirmation of missions planned in prepared documents may become necessary. In such cases new missions are assigned. The readiness and preparation of commanders and staff to resolve such issues in a limited time are of particular importance.

Under all conditions, the most important requirements in conveying missions to the troops are:

—timely assignment of missions;
—brevity and clarity of missions.

The missions must be worded in such a way that misinterpretation, or ambignity are avoided.

Interaction is an important measure in troop preparation. [See the discussion of *vzaimodeistvie* in the Glossary.] Coordination is organized to the entire depth of the operation and is primarily in support of the troops operating in the direction of the main attack. Coordination is organized in more detail for the phase of the initial nuclear strike and for the first day of the attack. Coordination for subsequent days during the conduct of the immediate mission is organized in relatively less detail due to difficulties in close assessment of the situation. Coordination during the future long-range missions of the *front* is organized in general terms.

In all aspects of organizing such interaction, attention is concentrated primarily on subordinates understanding their combat missions and forms of coordination with the forces and means conducting them. The organization of coordination in the offensive operation must provide for the coordination of the following actions during the accomplishment of assigned missions:

—nuclear strikes of *front* rocket troops and *front* aviation;
—strikes launched by means of the Supreme High Command and adjacent forces;
—actions of armies and large units organic to the *front*;
—actions by combat and support arms and aviation in terms of objectives, times, and places. Action of *front* air defense troops are coordinated with actions of National PVO Forces. The principal measures on establishing of all-around support in the interest of troop combat actions must be confirmed.

Coordination in terms of targets between the Strategic Rocket Forces, Long-range Aviation, adjacent and *front* means can be established in three ways. One is by specifying boundaries to separate the destruction areas of the enemy targets assigned to each one of them. The second is by assigning specific targets to each element in the same area. Under the third method a combination of both forms can be used. The form to be used is determined by the General Staff.

Coordination in the *front* is established as follows:

—among first-echelon armies;
—among first- and second-echelon armies of the *front*;
—among large units, operational formations of combined arms, rocket and artillery troops, and the aviation;
—between rocket troops and the air army of the *front*;
—between *front* forces and airborne (seaborne) assault troops;
—among *front* air defense forces and means.

The operation and combat action of the troops are elaborately coordinated during their action, following the initial nuclear strike, and during the conduct of the following missions:

—destruction of the enemy in the security zone;
—simultaneous actions to seize important areas and major operational targets;
—destruction of the enemy in the meeting engagement;
—encirclement of the enemy and destruction of an encircled enemy grouping or his reserves and groupings of forces trying to launch a counterblow (counterattack).

Actions of the troops are elaborately coordinated in terms of objectives, times, and places. In other cases, the combat action of the troops is always thoroughly coordinated in the same way when joint, concerted action is required to accomplish the missions.

Based on the nature and characteristics of the assigned missions and the specific procedure of coordination in the operations. The following are organized and conducted during peacetime:

—combat, political, and operational training;
—preparation of troops and staffs.

In contemporary times, great attention is given to preparation of the IRs of the troops prior to the initiation of the combat action. This action is a requirement imposed by the facts relating to the high combat-readiness of potential enemy rocket-nuclear weapons, his aviation and ground force groupings in the Western and other TSMAs, the possibility of a surprise nuclear strike, and the danger of enemy aggression. Advance engineer work and installations at the IRs enhance the viability and activeness of the troops. This provides favorable conditions for the repulsion of enemy surprise attacks and for the initiation of the offensive under various circumstances at the outbreak of war.

Preparation of the *front* troop's IRs for attack includes the following:

—preparation of the IRs for first-echelon formations;
—deployment areas of second-echelon formations and assembly areas of *front* second-echelon troops and *front* reserves;
—main and alternate position areas of armies and *front* rocket and artillery troops;
—fire and deployment positions of air defense and radio-technical means;
—concealed, dirt surface, airfields;
—deployment areas for special troops;
—command posts and signal centers.

In addition to this, during preparation of the IRs, the following are also done:

—signal communication lines are established;
—roads and bridges are developed to facilitate troop movement, supply of materiel, and evacuation;
—obstacle and demolition areas are prepared on likely directions of possible enemy attacks.

It is recommended that IRs for first-echelon large units are prepared 20-40 kilometers from the national border. Therefore, these large units are protected against enemy artillery fire and the possible use of tactical chemical weapons.

Positions are prepared for covering troops, artillery, and for rocket battalions of the first-echelon divisions one to five kilometers from the border. They are responsible for supporting the troops by nuclear strikes during the initiation of the attack by friendly forces and also during the repulsion of enemy surprise invasions.

Areas of deployment for second-echelon divisions are prepared at a distance of 60-80 km from the border.

Front second-echelon troops and reserves establish their assembly areas in order to provide for a dispersed deployment of troops. Formations may be assigned areas of responsibility where the related large units and units must maintain order and discipline among the civilian population, or where they must destroy enemy airborne assault and diversionary groups.

The preparation of the IRs by forces and means is conducted in full compliance with secrecy and concealment measures. Therefore, it is required that the major part of such actions are conducted in accordance with the operational *maskirovka* plan.

During peacetime it is not possible to prepare the IRs everywhere in advance in terms of engineer work. In this case, all matters related to organization of the IRs must be conducted, reconnaissance and evaluation of the terrain must be accomplished, and the IRs of units and subunits and the method of their occupation must be specified.

Movement of troops to the IRs will be conducted according to special instructions from the commander-in-chief.

Troops move toward, and enter the IRs from their permanent garrisons, from assembly areas occupied after the alarm, or from the exercise areas.

Organization of Combat Support Measures and Troop Control

Combat support measures conducted to aid the combat actions of the troops is one of the main factors in achieving a successful operation. Therefore, these measures must be thoroughly considered and organized in advance.

Types of combat support measures include the following:

—reconnaissance;
—operational *maskirovka*;
—protection of rear service troops and targets (installations) from mass-destruction weapons;
—engineer support;
—radio-electronic support;
—chemical support;
—hydrometeorological support;
—topogeodetic support;
—rear service support.

Combat support measures for *front* offensive operation are organized on the basis of the *front* commander's decision and his instructions. Actions relating to combat support measures are organized directly under the supervision and leadership of the chief of staff.

The *front* staff organizes the following:

—reconnaissance;
—protection of troops and rear service installations from mass destruction weapons;
—radio-electronic combat;
—hydrometeorological and topogeodetic support.

The related chiefs of arms and services organize and conduct other types of support measures. The chief of staff of the *front* works out a plan and gives instructions to the troops for each type of combat support measure.

Troop Control

One important element of preparation of the operation is the organization of troop control of the *front* forces in the operation. This includes planning of the following:

—preparation and deployment of the command posts in the troop IRs;
—method of relocation in the course of the operation;
—advance preparation of the command posts in terms of engineer work, communication lines, and signal centers;
—other measures.

Command posts and signal centers must be capable of ensuring firm, continuous troop control at the following times:

—while bringing troops to full combat readiness;
—during movement of troops to, and deployment in, the FUPs;
—while initiating surprise attacks on the enemy;
—during repulsion of an enemy attack;
—during accomplishment of all other tasks in the operation with, or without, the use of nuclear weapons.

The following command posts are established during the offensive operation of the *front*:

—[main] command posts (*komandnyi punkt*—KP);
—forward command posts (*peredovoi komandnyi punkt*—PKP);
—rear service control points (*tylovoi komandnyi punkt*—TPU);
—auxiliary command posts (in some cases);

The signal communication system includes a developed network of communication links of all types of main and auxiliary signal centers. The signal communications system is established so that it ensures firm, steady communications with the troops from permanent garrisons and from prepared field command posts of the *front* and armies. The signal system must provide reliable communications for warning the troops and for communicating with forces and means participating in the initial nuclear strike. The system provides communications with troops repelling enemy aggression, as well as with groupings of forces initiating the offensive.

In order to ensure firm, continuous troop control during an offensive operation, the method of relocating the command

posts is planned in advance. A troop control group (*gruppa upravleniia*), with signal communication means is established to accompany the *front* commander during his visits with troops. In this connection, efforts are made to avoid a situation in which the *front* commander and the *front's* principal field troop control elements are cut off from the troop control process. Relocation of command posts is initiated when it is necessary that they be closer to the troops to ensure more reliable, effective troop control, or when the location of the command posts is threatened by likely enemy attack and strikes. Relocation of the command posts is conducted with the permission of a superior commander when the new location of the command posts is prepared in terms of engineer work and signal communications.

Maintaining High Combat Readiness

Constant combat readiness of the troops for the accomplishment of combat missions is a general requirement and principal condition insuring the following:

—initiation of surprise strikes and blows against the enemy;
—repelling enemy strikes from land, air, and sea;
—rapid initiation of decisive attacks by *front* forces.

In contemporary times, the following steps are set for combat readiness of troops [and see the Glossary entry for *boevaia gotovnosti*]:

—constant [routine] combat readiness;
—increased combat readiness;
—full combat readiness.

Constant Combat Readiness

Constant combat readiness is the level (*stepen'*) at which Ground and Air Forces conduct their routinely planned activities, while large units and units are constantly prepared for conducting missions, and mobilization of under-strength large units, units, and installations. In this state of combat-readiness individual units and subunits conduct duty service and execute missions according to the plan.

Increased Combat Readiness

Increased combat readiness is a level of the troops from which they can pass over to the level of full combat readiness in the shortest time.

At this level of combat readiness all large units and units engaged in out of garrison activities such as field exercises, activities in training polygons, and other engagements are called back to take measures to increase combat and mobilization readiness. Duty (on call) forces and means are reinforced and they conduct combat service with full combat readiness. Officers are called back from leave, vacations, and temporary terms of duty elsewhere. They are all accommodated in the garrison. Moreover, daily patrol (on-call) service and security and defense of important targets (installations) are enhanced by patrols assigned around the garrisons. Protection of troops from mass destruction weapons is organized.

In the headquarters, daily duty service by responsible generals and officers and their augmented relieving teams in the command posts and control posts are reinforced. Operational groups with signal communication means are dispatched to prepare field command posts.

On the basis of the directive of the Minister of Defense and the General Staff a number of special measures for upgrading the combat readiness of rocket large units and units, understrength large units and units, and other installations are taken.

All measures taken in support of increased combat readiness must secretly prepare troops for the conduct of combat missions.

Bringing troops to a level of higher combat readiness is normally conducted without getting the troops out of their permanent garrisons. However, some large units and units can be moved to previously specified areas.

Full Combat Readiness

Full combat readiness is the highest level of readiness for the rapid accomplishment of combat missions.

Bringing troops to a level of full combat readiness is normally conducted with the troops being warned by combat alert and

moved out of their permanent garrisons. At this level of combat readiness, large units and units are upgraded to wartime strength. Large units and units which are in an understrength and cadre status, and those that are understaffed are brought to full strength by mobilization and materiel reserves at times prescribed by the established plans.

Personnel of large units and units organic to groups of forces and border military districts, are issued ammunition, grenades, gas protective masks, helmets, portable tents, and chemical protective clothes.

In groups of forces and border military districts, the covering troops move to their specific areas and take defensive measures according to the established plans. They will conduct reconnaissance on the ground and in the airspace of their area of responsibility. Aviation is deployed to dispersed locations.

Staffs move to prepared command posts and control the accomplishment of given instructions. Bringing troops directly to full combat readiness without passing through the intermediate state of higher combat readiness may also be done.

Specific plans for bringing troops to full combat readiness are prepared in operational formations, large units, and units. They include measures to be taken and a timetable for the accomplishment of all readiness actions.

In contemporary times, sufficient time will not be available, in all cases, to allow for conduct of all measures required for bringing troops to full combat readiness. It would be a mistake to assume that a period of threat is a prerequisite to war. War may break out as a total surprise. Basically, all measures for bringing troops to full combat-readiness are assumed in principle to be conducted under circumstances when war is going to be initiated by surprise. The principal measures ensuring direct transition of the troops from a level of constant combat readiness to a level of full combat readiness are as follows:

—thoroughly organizing an effective troop warning system;
—specifying areas to be occupied by troops, after the combat alarm, as FUP areas for conduct of combat missions or mobilization and the method of movement to these areas;

—maintaining high combat readiness of troops during the movement of formations and units to field exercises, polygons, camps, and outside of permanent garrisons;
—adjusting and upgrading weapons, combat equipment, and technical reserves to a level of operational readiness;
—organizing mobilization measures;
—exercising continuous control over the level of troop combat readiness.

Particular attention must be directed to morale, political, and psychological preparation of personnel. High troop morale is an important factor determining the character of their combat-readiness and their combat capabilities.

All measures regarding transition of the troops to increased and full combat-readiness must be thoroughly planned and secretly conducted by observing all concealment and *maskirovka* measures.

III. Conduct of Front *Offensive Operations with the Use of Nuclear Weapons*

The *front* offensive operation with the use of nuclear weapons is initiated by a nuclear strike. At the time of the initial nuclear strike decisive losses must be inflicted on the enemy throughout the entire depth of the deployment of his forces. Favorable conditions should be provided for the initiation of rapid strikes by the troops in accordance with the concept of the operation.

Forms of Conducting the Offensive Operation

Offensive operations can be conducted in different forms. These are primarily dependent on the following:

—types of weapons used in the operation (nuclear or conventional);
—enemy groupings and characteristics of his actions;
—composition of the *front's* forces;
—condition of terrain;
—other factors.

Therefore, when we talk about the forms of conduct of the offensive operation, we actually mean the specific methods of the actions of forces and means of the *front* in achieving the aims of the operation. In offensive operations with the employment of nuclear weapons, the fundamental forms of conducting the operation are constituted by the following:

—inflicting decisive losses on the enemy with nuclear weapons;
—rapidly advancing (attacking) by tank, motorized rifle, and airborne assault forces;
—destroying the enemy and rapidly seizing vital areas.

One of the most effective forms of conducting offensive operations in contemporary times is inflicting decisive losses on the enemy during the initial and subsequent nuclear strikes. This is accomplished by the rapid attacks of troops in coordination with airborne assault troops on the shortest directions leading to those areas that will facilitate the achievement of operational aims. Under this form, the main groupings of enemy forces are broken into pieces and destroyed. Destruction of enemy groupings piecemeal creates the following:

—favorable conditions for the disruption of enemy operational resistance and troop control;
—piecemeal destruction of shattered forces;
—development of the attack in great depth at high speed.

Another form of conducting an offensive operation can be a form in which, following the initial nuclear strike, the forces do the following:

—attack along converging directions;
— encircle and destroy enemy main groupings of forces with *front* assets or in cooperation with adjacent forces;
—develop the attacks to sufficient depths to seize areas which facilitate the achievement of the operational aim.

Under certain circumstances, another form can be used which develops as follows:

—inflicting decisive losses on the enemy by nuclear strikes combined with rapid attacks of *front* main forces along the shortest directions to the depth of enemy territory;
—launching an enveloping blow to the flank and rear of enemy groupings to force them against natural barriers and then destroy them.

This [latter] form is used when the offensive operation is conducted along the coastline. In this case, the *front* forces cut off enemy coastal groupings of forces and destroy them in cooperation with naval forces. Other forms of execution may also be used. A combination of different forms can also be employed. For the immediate mission of the *front*, enemy forces are subjected to decisive losses by nuclear strikes, while the main grouping of *front* forces attack along converging directions to envelop and destroy the enemy. In this form the long-range missions of the *front* are accomplished by massive use of nuclear weapons and rapid attacks of troops, on several directions, to destroy deeper enemy reserves and to end the operation successfully.

The forms of destruction of large enemy groupings of forces are dependent on the following:

—composition [of enemy groupings];
—operational situation;
—character of action of the enemy groupings;
—capabilities and situation of friendly forces.

The principal forms of destruction of enemy groupings with the use of nuclear weapons will consist of the following:

—delivery of massive nuclear strikes on enemy groupings;
—rapid attacks by the troops;
—completion of the destruction of enemy groupings.

When more time is required for preparing massive nuclear strikes by the *front*, or when sufficient information about the situation of enemy targets to be hit by nuclear weapons is not available, destruction of enemy force groupings are conducted by delivering several successive nuclear strikes with rapid attacks by *front* forces.

The most effective form of destroying of the enemy, particularly groupings of his operational reserves, is the delivery of massive nuclear strikes by as many nuclear rounds as will ensure the infliction of sufficient losses on him and completely destroy his combat power.

Delivery of Front *Initial Nuclear Strikes and Measures for Restoring Combat Capabilities of the* Front *Forces*

Initial nuclear strikes can be launched in accordance with variously patterned plans. The strike includes launching prepared rockets and massive flights of aircraft to deliver losses on planned enemy targets. The initial nuclear strike of the *front* can be launched simultaneously with the nuclear strike of strategic nuclear forces and Long-Range Aviation, or following the strategic nuclear strike.

The best form of launching the initial nuclear strike is to deliver it simultaneously with the strike of strategic nuclear weapons. However, this is feasible only under very favorable conditions when *front* nuclear means can be simultaneously brought to full combat readiness and can be activated by the reception of the combat alert from the General Staff. It must be noted that the preparation of *front* nuclear delivery means lags behind preparation of Strategic Rocket Forces. Since delaying the launch of strategic nuclear means in the interest of allowing *front* nuclear means to catch up is not desirable, sometimes the initial nuclear strike of the *front* follows the strike of strategic nuclear forces. This requires that the time gap between the strike of strategic forces and the delivery of *front* nuclear strike is decreased to the minimum. This can be achieved by the following:

—upgrading combat readiness of *front* rocket troops;
—taking timely measures for rocket technical support;
—advance deployment of *front* rocket troops in the IRs.

Given the increased capabilities of the enemy for detecting the launch of rockets and aviation flights, operational rockets must be fired simultaneously with the launch of strategic rockets and aircraft must be airborne simultaneously (at the time of

launch of the rockets). This form of action better ensures the surprise delivery of initial nuclear strikes and protects *front* rocket troops and aircraft from enemy strikes prior to the launch of initial nuclear strikes and flight of the *front* aviation. In order to facilitate the simultaneous launch of *front* nuclear weapons at the time of delivery of the strategic nuclear strike, the on-call (*dezhurnyi*) rocket troops (30 percent of the *front* rocket troops) are kept ready to participate in the initial nuclear strike.

Targets of strikes for on-call nuclear weapons are enemy operational nuclear means and his command and control systems.

Depending on their level of readiness and preparation, the main rocket troops and *front* aviation are directed to inflict heavy losses on the main groupings of enemy forces, air defense means, command posts, and other vital enemy targets.

The use of strategic, operational-tactical and tactical nuclear forces against enemy targets must be calculated in accordance with the required security distance of friendly troops from nuclear explosions. The security distance of the attacking troops from the center of nuclear bursts depends on the following:

—yield of nuclear rounds to be used;
—types of bursts;
—direction and speed of wind;
—time of day (during hours of darkness the light radiation of nuclear bursts is two times more effective than during the daylight hours).

The security distance of attacking troops (personnel in the open and in top-open BTRs in the daylight) from the center of explosion (burst) is as follows:

—5 kilotons — 2.5 km
—10 kilotons — 3.0 km
—20 kilotons — 3.8 km
—30 kilotons — 4.4 km
—40 kilotons — 5.2 km
—100 kilotons — 6.5 km
—200 kilotons — 8.2 km
—300 kilotons — 9.4 km

If friendly troops are not warned, the security distance for 5 and 10 kilotons increases 4.5 times; for 20, 30, 50, and 100 kilotons, 3.5 times; for 200 and 300 kilotons, 2.5 times. At night these distances further increase by two times.

During the conduct of the initial nuclear strike, due to the likelihood of rapid changes in the situation and losses of *front* nuclear means from enemy strikes, adjustments will be made in the graphic strike plan. This adjustment is aimed at rescheduling the destruction of enemy targets on the basis of repeated reconnaissance. Nuclear strikes on some targets previously planned will be changed in order to assign new strikes to some newly disclosed targets. Primary targets will be enemy nuclear weapons. It will be necessary to reallocate the number and yield of nuclear rounds for inflicting the planned losses due to the degree of losses already inflicted on some targets. All this requires reassignment of tasks to rocket troops and aviation.

In the process of making the above-mentioned adjustments, the *front* commander must examine closely the time for the changes and the capabilities of the troops to execute them.

During the organization and conduct of the initial nuclear strike, the level of losses inflicted on the enemy must provide for the establishment of decisive superiority in forces and means over the enemy for the conduct of a rapid attack. Simultaneously, or after the strikes, the troops must repel enemy aerial attacks. At this stage, an invasion by enemy groupings of forces is also possible. The repulsion of massive flights of enemy aircraft and pilotless means can be initiated by commitment of fighter aviation and powerful strikes of *front* and National PVO units. In this case enemy aerial attacks are repelled first by those air defense means in whose range the enemy aircraft first entered. When all air defense forces and means are brought to full combat-readiness it is required that in the development of the direct threat of the outbreak of war the repulsion of aerial enemy attacks is always initiated according to the plan. Efforts must be made so that if the enemy launches a surprise attack, the combat action to destroy enemy aerial targets is initiated by standby air defense means and later their action is expanded by commitment of the rest of the air defense forces and means and *front* aircraft.

In all conditions the strongest action against the air enemy must be directed at the distant approaches of the friendly troops and targets covered by air defense means. These actions must be as strong as possible so that air defense capability is exploited to the maximum. This means that decisive losses can be inflicted on the enemy before he reaches his targets.

Following nuclear and air strikes, large units and operational formations of enemy ground forces may initiate the attack on individual directions. The repulsion of such an enemy attack is conducted by the forces and means of covering units and those first-echelon large units which are deployed in the direction of enemy attack. The most threatening enemy force groupings will be destroyed by subsequent nuclear strikes, as well as, by *front* aircraft strikes and massive fire of artillery. When needed, the directions that are most threatened are reinforced by combined arms and special reserves. Heavy losses are inflicted on the enemy forces which have initiated the attack. Measures are taken to prevent the enemy from arriving at the flanks and rear of *front* strike groupings which are preparing for the attack, or have already initiated the attack.

As a result of nuclear strikes from opposing sides, the situation rapidly changes. Heavy, expensive, and numerous areas of destruction are created including the following:

—large radioactive contaminated areas;
—wide areas of inundated terrain;
—large fires in forests and populated areas.

Due to enemy nuclear strikes *front* forces may sustain losses and, therefore, some individual groupings of forces may become extremely weakened or lose their combat capabilities.

Immediate and rapid measures are taken to eliminate the consequences of mass destruction weapons. In order to organize and conduct all necessary measures for eliminating the consequences of enemy nuclear strikes and to restore the combat capabilities of troops in the shortest time, enormous efforts are taken on the part of the *front* commanders, staffs, chiefs of arms and services, and troops. It is essential to acquire information about the status of the troops and the radioactive situation. The

level and extent of casualties and the readiness level of large units and units for the conduct of combat missions are assessed. Timely acquisition, collection, and evaluation of accurate data regarding the aforementioned information greatly affects the rationality and relevance of decisions made on future troop actions. *Front* (army) commanders and their staffs must show maximum initiative in this situation in order to conduct measures for eliminating the consequences of enemy nuclear strikes and to accomplish assigned combat missions. Restoration of combat capabilities of large units and units closely rely on the following:

—rapid action in moving troops from affected areas;
—maneuver and quick reorganization of forces;
—extension of combat support measures and technical measures;
—reestablishment of conditions facilitating the accomplishment of the combat missions and also resupply to make up for losses and repair damaged equipment.

Restoration of combat capabilities of large units and units affected by enemy nuclear strikes depends on the conduct of the following actions:

—taking measures to restore disrupted troop control of large units and units;
—extracting of large units (units) from the center of the most severely affected areas to continue the conduct of combat missions;
—conducting rescue operations in areas with a high density of casualties and the evacuation of personnel;
—specially decontaminating of personnel, weapons, and materiel;
—taking measures to decontaminate roads and exit routes from the centers of casualties;
—extinguishing or restricting fires.

When major losses occur and the complete structure of divisions or their separate units disintegrate, all surviving personnel and combat equipment which are still of combat value are

reorganized into individual detachments, mostly regiments and battalions. The organization, structure, and composition of large units and units reorganized into new organizations can be different from one another. It is also possible that under certain conditions it may be deemed more feasible not to integrate surviving elements into individual detachments. Instead surviving units and subunits of one division are attached to and integrated into an intact division. This method will not require elaborate reorganization measures.

In the meantime, measures are taken to restore and replace the losses of weapons, combat equipment, and materiel resources.

Initiation of the Attack by Front *Forces and Destruction of Opposing Enemy Groupings*

The *front* forces initiate the offensive from the staging IRs or assembly areas they have occupied immediately after the combat alert and in some cases directly from their permanent locations and exercise areas.

The method of initiating of the attack depends on the circumstances of the situation and primarily on the results and consequences of the initial nuclear strikes of both sides, the effectiveness of the action of defending troops, and the characteristics of enemy actions. One of the most important requirements in this phase is the maximum exploitation of the consequences of the initial nuclear strike for the destruction of the opposing enemy.

As *front* forces initiate the attack, they may have to do the following:

—conduct meeting engagements;
—pass through or penetrate enemy defenses;
—pursue the enemy;
—foil enemy counterblows;
—destroy groupings of enemy forces trying to counterattack;
—pass through various obstacles and contaminated areas;
—conduct assault river crossings over water obstacles;
—seize urban areas and vital political, administrative, and economic areas.

A situation cannot be excluded, that, during offensive operations, the *front* may be forced to assume the defense with part of its forces on individual directions. During the offensive operation *front* forces opt to destroy opposing enemy groupings of forces in border areas. In this case decisive losses are inflicted against the enemy by initial nuclear strikes followed by the decisive defeat or destruction of his resisting groupings. This is achieved by subsequent nuclear strikes and actions of the attacking troops. In the meantime, possible dramatic and rapid changes in the situation due to nuclear strikes from both sides may bring about the need to reconfirm forms of actions by the troops to destroy surviving groupings of enemy forces operating in the border areas.

Various conditions for the destruction of the enemy may develop depending on the following:

—degree of enemy losses;
—combat capability and combat power of *front* forces;
—correlation of forces and means.

For cases in which the enemy suffers from such heavy losses that its groupings of forces in the border areas are disintegrated into individual and isolated groups, without combat capability, the combat action of the *front* forces is characterized by rapid advance of the main groupings of forces in precombat order, or in high speed marching columns to the depth of enemy territory. A part of the troops will be sufficient to complete the destruction of surviving groupings of enemy forces, which have maintained combat capabilities.

When, on individual directions or across the entire front of the *front* both sides suffer heavy casualties, the most important actions would be as follows:

—forestall and overtake the enemy in delivering subsequent nuclear strikes on enemy groupings which have maintained combat capability;
—initiate a decisive, rapid attack by all troops having combat capability;
—eliminate the consequences of nuclear strikes;

—quickly restore the combat capabilities of the troops hit by nuclear strikes;
—employ troops for developing the attack.

It is possible for individual groupings of [friendly] forces to lose their total combat capability while the enemy exploits this situation by launching attacks against them with his troops that have maintained combat capabilities. Under such circumstances, it is required that repeated nuclear strikes be delivered against the most dangerous groupings of enemy forces. Defensive action by troops is also organized on the affected directions and sometimes such directions are reinforced by *front* and army forces and means.

Another situation may develop when the enemy suffers heavy losses in one direction. On the other directions his forces escape destruction and are left intact and capable of initiating decisive attacks. In such situations all of the *front's* efforts must concentrate on the rapid delivery of massive nuclear strikes against enemy groupings which have maintained combat capabilities. In the meantime, part of the *front's* forces launch an attack in the wake of the nuclear strikes. This group then advances to destroy the enemy in a meeting engagement.

In order to destroy the enemy in a meeting engagement, massive preemptive nuclear strikes by rocket troops and the *front* air army must be delivered against approaching enemy forces or attacking enemy groupings. This will inflict decisive losses on enemy forces before they come into close contact with the *front* forces. During preemptive strikes with nuclear and conventional weapons, *front* forces must advance rapidly to quickly complete the destruction of enemy forces.

A basic form of destroying the enemy in meeting engagements by use of nuclear weapons is a combination of frontal strikes on the enemy's forward formations and strikes by a part of the *front* forces on the flank of the enemy's main groupings of forces before it deploys. The formations conducting the frontal blows (attacks), following the nuclear strikes, do the following:

—infiltrate from the line of march into the gaps between enemy columns;

—break the enemy into individual units.

The large units attacking on other directions as quickly as possible try to envelop and encircle the main enemy groupings and destroy them by attacks from one or both flanks. In conditions of mass-employment of nuclear weapons another form of destroying the enemy in a meeting engagement is also possible. Devastating frontal attacks are launched in several directions to break enemy groupings into isolated pieces and destroy them piecemeal.

In offensive operations with the use of nuclear weapons, *front* forces often penetrate enemy defenses. At the beginning of the operation, *front* forces pass through the enemy's forward defense line. During development of an attack in depth, they will pass through enemy defenses on intermediate and rear defensive lines.

When the enemy deploys its forces in advance, or during the conduct of the initial strike on forward defensive lines, passage through such defenses will be conducted by rapid action of *front* first-echelon combined arms and tank armies, after the delivery of the initial nuclear strike and passage of the troops through enemy security zones.

During passage through the security zone, follow-up nuclear strikes are launched against newly detected enemy nuclear delivery means, against enemy groupings of forces deployed along the directions of the *front's* attacks, on forward defensive lines, or in the rear of such lines. In individual directions where groupings of enemy forces are not sufficiently suppressed by nuclear weapons, artillery preparatory fire can be conducted on the basis of decisions by army commanders.

By exploiting the consequences of nuclear strikes and the results of the artillery preparatory fire, and also by using the gaps between the enemy's operational formations as deployed in defense, the first-echelon large units assault the enemy's forward defense line from the line of march. They avoid decisive engagement with surviving enemy groupings but rapidly move to their flanks and rear to destroy them and develop their rapid attack to the full depth. They always refrain from becoming involved in long-lasting battles.

Individual enemy groupings and enemy points of resistance left on the flanks and rear can be destroyed by artillery, tank fire, and by approaching reserves and large units of armies and sometimes formations of the *front*. To destroy such groupings of enemy forces, nuclear strikes using smaller yield nuclear rounds, in close consideration of the required security distance to friendly troops, are allocated if needed.

Development of the Attack

Development of the attack by *front* forces is achieved in the following manner:

—troop efforts on vital attack directions are enhanced and reinforced;
—attack speed is increased to complete destruction of enemy troops quickly;
—areas which facilitate the achievement of the aim of the operation are seized rapidly.

In order to ensure the successful development of an attack repeated nuclear strikes are launched against enemy targets and groupings of forces. First-echelon armies are reinforced by reserve divisions of the *front* or through regroupment of forces by shifting troops from less important directions. Second-echelon forces are committed into combat. In order to complete destruction of the enemy forces, tank armies (tank divisions) and airborne assault troops are primarily employed.

Tank armies and tank divisions of combined arms armies possess great striking power, high maneuverability, greater survivability against the effects of destructive nuclear explosions, and better capability to pass through radioactive contaminated areas, obstacles, and destroyed zones. They can operate at higher speeds in the wake of nuclear strikes to destroy rapidly surviving enemy groupings and to destroy or seize airfields, road centers, rocket bases, air defense bases, major command posts, and foil enemy mobilization measures and actions. Tank armies by their independent actions, separate from the rest of *front* first-echelon forces, can launch strikes (blows) to the flanks and rear of the enemy groupings, which have maintained

their combat means. They can expand their efforts on vital attack directions, or can assume the mission to shift the main attack (effort) to other directions.

During development of the attack, special importance is given to actions of airborne (seaborne) assault forces in the accomplishment of missions to complete the destruction of the enemy. The form and method of employing of such forces will differ. This will depend on the nature of assigned missions. Normally airborne assault forces are committed in the wake of nuclear strikes, on adjacent directions, and always have decisive objectives.

In order to ensure the success of an attack by combined arms and tank armies, on the first day of the attack, tactical airborne assaults are widely employed. They are assigned missions to complete the destruction of small surviving enemy groups, to prevent maneuver of enemy forces and means which have maintained their combat capability, and to help the first-echelon divisions in the following:

—seizing the road junctions;
—crossing water obstacles;
—passing through radioactive contaminated areas and mines, primarily nuclear mine obstacles.

Air assault brigades (*vozdushno-shturmovaia brigada*) must be used in their entirety in the wake of nuclear strikes. Their purpose is to destroy or seize the following:

—surviving enemy nuclear delivery means;
—nuclear and chemical munition stockpiles;
—depots;
—airfields;
—command posts;
—air defense means;
—bridges;
—mountain passes;
—other vital targets.

In some cases the air assault large units and units may conduct missions to seize and hold vital lines and areas in the rear of enemy forces.

Missions of operational airborne assault forces are as follows:

—complete destruction of enemy forces hit by nuclear weapons;
—seize and destroy nuclear rocket bases, airfield complexes, nuclear munition stockpiles, and depots;
—isolate enemy forces operating from the flanks and prevent the approach of enemy reserves from the depth;
—seize crossings and assist *front* forces in assault crossings over major water obstacles;
—destroy enemy command posts and disrupt enemy troop control in general.

Bold and active actions by airborne assault troops constitute the basis for success in the accomplishment of the missions. To support combat actions by airborne assault troops, the *front* may launch individual and group nuclear strikes against the most threatening groupings of enemy forces and employ aviation elements to support the combat actions of the airborne assault troops.

When ground nuclear bursts are employed by the enemy, wide radioactive contaminated areas are formed. These areas constitute serious obstacles in the face of attacking forces. They delay the advance of attacking forces. Therefore, by using ground nuclear bursts the enemy may try to gain time for moving his reserves up from the depth and maneuver his forces across the front. To ensure the accomplishment of the operational mission in such cases, special attention is paid to the effective actions of troops in the following situations:

—contaminated areas;
—areas affected by enormous destruction;
—fires;
—areas inundated by water.

Forms of passage through radioactive contaminated areas depend on the following:

—nature of the missions conducted by *front* forces;
—dimension and form of the contaminated area;
—level of radiation;

—time required for the level of radiation to fall;
—conditions for troop movement on the terrain;
—character of enemy action.

Principal forms for passing through radioactive contaminated areas can be the following:

—passage through radioactive contaminated areas from the march without waiting for the level of radiation to drop;
—passage through contaminated areas by avoiding places of higher levels of radiation;
—bypassing contaminated areas;
—passage through contaminated areas using a combination of the aforementioned forms;
—when the situation permits, troops may wait for the level of radiation to drop and then continue the advance.

The decision to use any form of passage through contaminated areas must be based on the following requirements:

—ensuring rapid action of the troops and their quick maneuver to rapidly get out of the contaminated areas;
—developing the attack at a high rate of advance;
—destroying the enemy;
—seizing enemy territory.

Front forces must be reinforced by reserves to ensure dynamic action and rapid maneuver during the development of the attack, delivering devastating strikes, and expanding of effort. Reinforcement of first-echelon armies by reserves is required in the following cases:

—destruction or completion of destruction of the enemy groupings of forces conducting the counterattack and enemy forces moving from the depth;
—troops shifting their efforts to other directions;
—when individual groupings of the attacking forces suffer heavy losses due to enemy nuclear strikes;
—when the establishment of new groupings of forces becomes necessary.

In addition to this, expansion of efforts can become necessary when on individual directions the correlation of forces and

means become unfavorable for the strike elements of the *front's* attacking forces.

Commitment of Second-Echelon Army

One decisive form of expanding efforts is the commitment of the *front's* second-echelon forces (combined arms or tank army) into combat. This should change the operational situation sharply in favor of the *front's* attacking forces.

The *front's* second-echelon army can be committed into combat for the completion of the *front's* immediate mission or at the beginning of the execution of the long-range mission of the *front*. This does not preclude the possibility of committing the second-echelon as early as the first day of the operation, under certain situational circumstances, and during the development of the attack. The *front's* second-echelon army, as a rule, is committed to conduct missions on the direction of the *front's* main attack. A second-echelon army can also be employed for the following:

—to develop the attack in new directions in the interest of quickly achieving the aim of the operation;
—to reinforce a first-echelon army which has suffered heavy losses;
—to complete the accomplishment of the *front's* immediate mission.

In all conditions, the commitment of a second-echelon army must be conducted in an organized manner, with heavy losses inflicted on enemy forces by strikes of rocket troops and aviation. This provides for the ability to advance rapidly to a greater depth into enemy territory and to reach quickly the rear and flanks of enemy main groupings of forces in order to seize vital areas and targets in the TSMAs. Commitment of the second-echelon army into combat can be conducted in the following areas:

—where one or two armies are operating forward;
—between the flanks of two armies;

—in the gap created between first-echelon armies during the attack;
—in areas thinly occupied by the enemy.

In this case, the second-echelon army can be committed into combat simultaneously or successively in full strength or partial composition. Depending on the situation, the commitment of the second-echelon army must follow nuclear massive or group strikes on enemy targets so that the army acquires, from the onset, the ability to develop rapidly the attack to the depth of enemy territory.

Front reserve formations and *front* and army second-echelon forces must be constantly ready for any type of mission which may emerge due to the changing situation forward. *Front* and army commanders and their staffs must constantly ensure that second-echelon forces and reserves are quickly moved to follow attacking forces at appropriate distances. They must always be alert to take necessary measures to commit forces rapidly into combat when required and constantly to maintain their combat capability. Movement of reserves and second-echelon troops in the course of the attack must be conducted in secrecy, preferably at night, on several routes when possible, and on a wide front. Under all conditions we must anticipate measures to eliminate rapidly the consequences of the use of enemy nuclear weapons, if our reserves and second-echelon troops are hit by such strikes.

Therefore, in achieving success during the conduct of the offensive operation, the principal role is played by the timely use of nuclear strikes of strategic nuclear forces and a concerted use of *front's* nuclear weapons in coordination with the employment of conventional means. The rapid advance of combined arms and tank forces and the active action of airborne assault forces in the enemy rear are also needed.

IV. Conduct of the Offensive Operation without the Use of Nuclear Weapons

The success of the offensive operation with the use of conventional weapons [only] greatly depends on:

—gaining air supremacy;
—establishing superiority in the correlation of forces and means on attack directions by using strike forces, particularly a superiority in artillery and tanks;
—ensuring surprise in air strikes;
—initiating the attack with an activeness and decisiveness of troop actions.

Forms of destroying enemy force groupings during an offensive operation are as different as the conditions of the initiation of the attack, along with the repulsion of enemy attack.

Forms of Conducting of the Operation and Destroying Enemy Groupings

In an offensive operation with conventional weapons, an important task is inflicting losses and destroying enemy forces. This is accomplished by conventional means such as artillery, aviation, tanks, and motorized rifle troops. Given the limited effects of conventional weapons on the enemy in terms of depth basically the forms of conduct of the offensive operation are the following:

—successively destroying of the enemy across the front and in the depth;
—inflicting losses on enemy troops by mass strikes of the attacking forces, aviation, artillery, and fire of antitank means;
—combining the strikes with blows (strikes) from tanks and motorized rifle troops.

Under these circumstances achieving successful destruction of the enemy forces requires the following:

—establishing decisive superiority in forces and means over the enemy, particularly in the direction of the main attack;
—exploiting gaps and weak points in the enemy's operational and combat formations;
—conducting bold maneuvers on the flanks and rear of the enemy troops;
—destroying enemy forces piecemeal.

The forms of conducting of the offensive operation with the use of conventional weapons are generally characterized by the following:

—successive destruction of enemy groupings of forces;
—wide use of maneuvers for envelopment of the enemy;
—cutting and breaking through enemy defenses;
—*front* participation in resolving tasks of the air operation in the TSMA;
—wide use of powerful artillery and aviation fires for the direct support of attacking forces.

One principal form of conducting of the offensive operation is the destruction of the enemy by the following:

—mass-employment of artillery and aviation;
—launching frontal blows (attacks) on one or two directions;
—cutting to pieces and successively destroying of enemy groupings;
—simultaneously developing an attack to the depth and flanks.

Under certain conditions another form may be used in which *front* forces attack on converging directions to envelop, surround, and destroy enemy forces. [See figure 2.] At the same time they develop the attack to the depth. The use of this form of conducting an offensive operation is more reasonable in situations when enemy main forces are deployed in the tactical or immediate operational depth, when enemy major reserves are located far from the *front*, and when the frontline offers conditions for enveloping maneuvers.

In operations conducted along the coastline, particularly where terrain conditions are suitable for conduct of wide maneuvers, the use of another form of conduct seems more reasonable. [See figure 3.] This form entails inflicting heavy losses on the enemy by massive use of artillery and aviation. At the same time the *front* launches attacks from the front along the coastline to isolate enemy maritime force groupings from the support of their naval forces and destroys the isolated enemy with the cooperation of friendly naval forces.

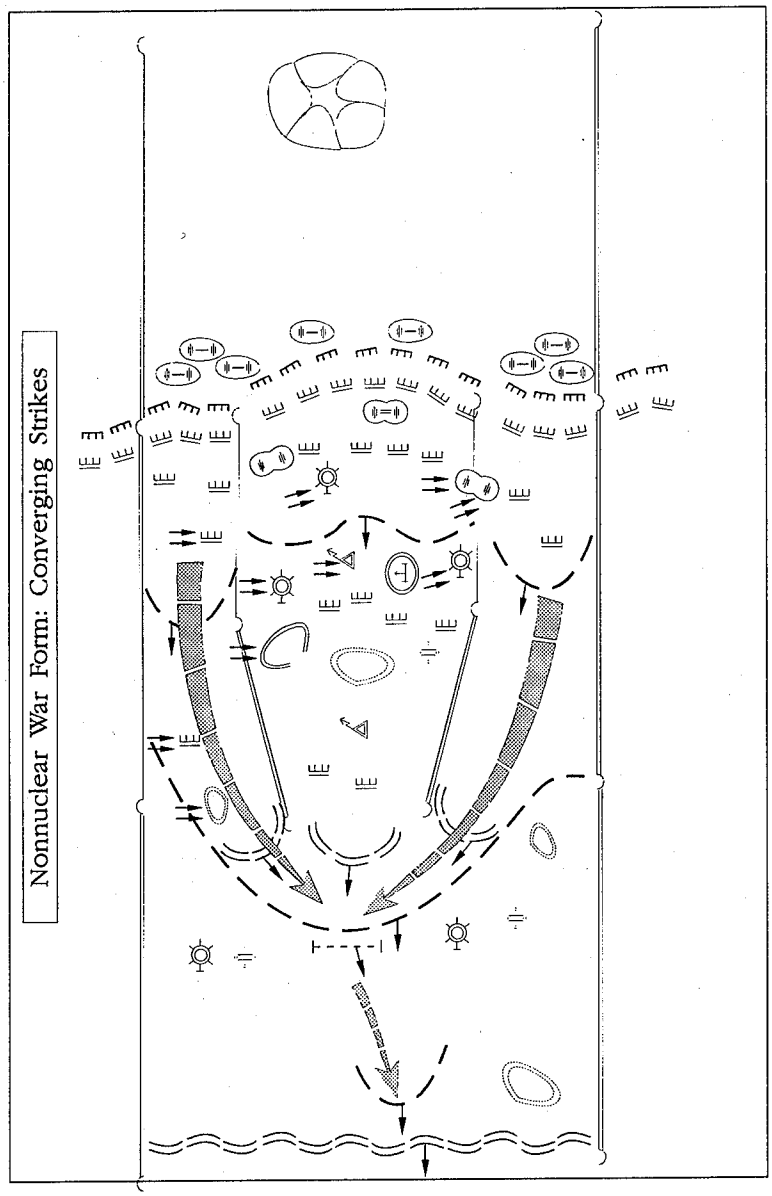

Figure 2

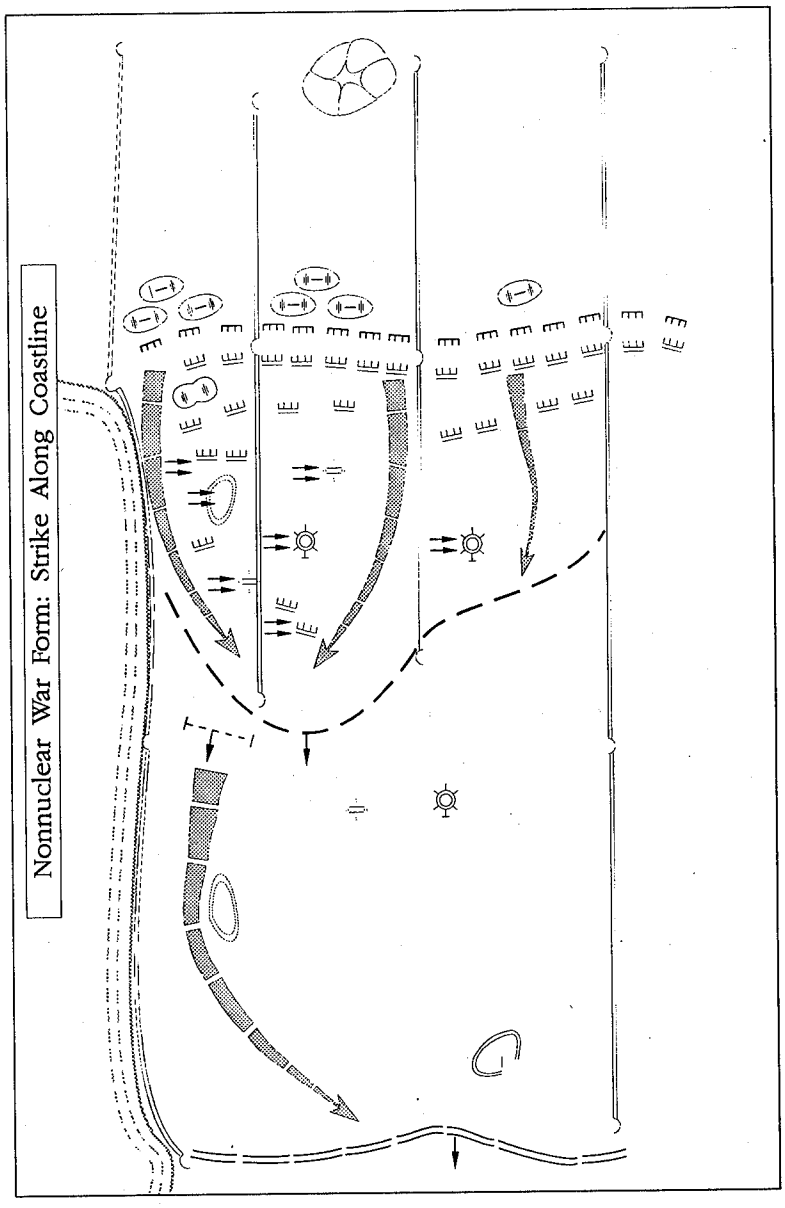

Figure 3

Basically, destruction of major enemy groupings of forces involves inflicting losses on the enemy by artillery fire and air strikes of *front* aviation combined with the fire and strikes (blows) of tank and motorized rifle troops. The attacking troops participating in the destruction of the major enemy groupings launch cutting and smashing frontal strikes (blows) or strikes (blows) to the flanks and rear of the enemy, in accordance with the situation, to rapidly destroy enemy forces piecemeal. Attacks on converging directions to envelop, encircle, and destroy enemy groupings can also be used. Simultaneously, with the destruction of enemy troops, *front* forces must develop the attack to the depth at high speed.

Repulsion of Enemy Attacks and Foiling His Attacks

Front forces, under any situational circumstances, must constantly be ready to repulse enemy attacks and to foil his attacks. This is an important mission of the *front*. Repulsing and foiling enemy attacks can be conducted in different forms. These forms depend on the following:

—situation at the initiation of war;
—correlation of forces and means;
—state of combat readiness;
—[actions by] friendly forces and the enemy.

In favorable conditions, repulsing enemy aggression and foiling his attack is conducted by launching surprise preemptive strikes by aviation and groupings of *front* forces on enemy forces preparing for the attack. Another way is by launching a decisive meeting strike (blow) on the enemy on the ground and in the air. Surprise preemptive strikes by the *front* inflict heavy losses on enemy aircraft, nuclear delivery means, artillery, and enemy troops. This ensures seizure of the initiative at the beginning of the operation. Foiling the enemy attack by launching meeting strikes (blows) is characterized by the following:

—intensive struggles to seize the initiative at the beginning of the operation;

—rapid commitment of fresh troops into combat as they approach from the depth in order to expand strikes in specified directions;
—simultaneously repelling enemy strikes on the directions of his attack.

In all cases, when the enemy forestalls and overtakes us in development and initiation of the attack and has great superiority in forces and means on specific directions, it is better to repel and disrupt the enemy's attack by a firm defense on prepared defensive lines in the IRs. The aim of such a defense is to inflict maximum loss on the enemy by firmly holding favorable lines and areas and then to destroy by counterattack those enemy groupings which suffer from heavy losses and initiate offensive action by *front* forces.

In situations when enemy aggression does not take place along the entire front, but is conducted only on one direction, foiling it is achieved by defending against it with part of the *front* troops on the direction of the attack. At the same time, forces of the *front* initiate the attack, and by decisive strikes to the flanks of the attacking enemy forces complete their destruction and develop the attack to the depth.

Foiling an enemy attack, when combat action is conducted only with conventional weapons, is very difficult. The availability of strong aviation groupings and mobile reserves in the enemy forces enables him to expand and reinforce his efforts on specific directions and continue his struggle to seize the initiative. In order to foil the intention of the aggressor and to break his will, the [friendly] troops are required, under all conditions and all probabilities, to conduct effectively a number of land and air strikes to impose their will on the enemy and seize the initiative.

Initiation of an Attack by Front *Forces*

Depending on the situation, the initiation of an attack by *front* forces can be conducted from the following:

—waiting areas;

—IRs;
—assembly areas (occupied by combat alarm);
—line of march;
—position of direct contact with the enemy after repelling the attack.

Decisions on determining and organizing troops are based on the following:

—location of IRs;
—character of enemy actions;
—method of deployment of troops during the initiation of the attack;
—form of the employment of artillery and aviation.

Preparatory fire should be conducted prior to initiation of the attack. It consists of artillery fire and strikes of the *front* aviation. The duration of preparatory fire depends on the following:

—time required for the deployment of troops from precombat to combat formations;
—their movement to assault objectives;
—enemy capability;
—degree of preparation of enemy defenses in terms of engineer works;
—time required by artillery to conduct its fire tasks during preparatory fire.

Principal targets to be suppressed and destroyed by artillery fire during the preparatory fire are:

—tactical nuclear weapons;
—artillery;
—mortar batteries;
—tanks;
—antitank weapons;
—personnel and weapons in enemy defensive strong points;
—troop control points;
—radio-technical means deployed in front of attacking troops;
—assault elements.

The targets to be hit by aviation are:

—nuclear delivery means;
—artillery batteries;
—command posts;
—enemy reserves;
—other enemy targets, preferably those located in the depth of enemy territory, out of range of artillery.

The destruction of enemy covering troops, when they are not very strong, is conducted by forward detachments sent by first-echelon divisions supported by artillery and aviation.

In such cases the main body of the first-echelon divisions move in columns following the forward detachments ready to support them and to exploit their success by rapid advance to the depth. Deployment of the main body of the first-echelon divisions into precombat and combat formations may be conducted in accordance with the need and degree of enemy resistance.

Therefore, when border areas are covered by large enemy forces, their destruction may not only require the deployment of forward detachments, but also the main body of first-echelon divisions may have to deploy from the outset.

During the passage of troops through enemy security zones, the commanders-in-chief are obliged to expand the efforts. This will ensure that when friendly forces become engaged in combat actions with enemy main forces they possess such strong groupings that they are capable of destroying enemy main groupings in the meeting engagement or by conducting breakthroughs of the enemy's defenses.

Enemy Destruction in the Meeting Engagement

The meeting engagement is characterized by the following:

—intense struggles to seize and retain the initiative;
—limited time for organization of combat actions;
—rapid, drastic changes in the situation;
—dynamic, rapid development of combat actions;
—commitment of troops into combat from the line of march;
—wide use of maneuver.

Meeting engagements without the use of nuclear weapons can develop during initial contact with enemy groupings of forces at the beginning of the offensive operation. They can also occur during the development of the attack in the depth where meeting engagements can develop on one or several directions simultaneously or successively in terms of the front and at different depths.

The decisive factors in achieving success in a meeting engagement are the following:

—overtaking the enemy in launching air strikes;
—opening artillery fire on the main forces of approaching enemy troops;
—rapid deploying of the strike groupings of friendly forces along specified directions.

Prior to the attack of the division's main forces in the meeting engagement, artillery preparatory fire is conducted to suppress enemy artillery, antitank guided missiles, tanks, personnel, and other enemy targets on directions of the friendly troop's combat actions. In this case artillery preparatory fire will normally be of shorter duration because the enemy will be on the move in the open, and enemy targets will be exposed. Even if the enemy deploys to hold a defensive line, his fire system and defensive engineer works will need to be completed. Enemy targets will then be more vulnerable than in a prepared defense. Therefore, artillery preparatory fire against the enemy in meeting engagements will be composed of shorter, powerful fire-strikes of 10-15 minutes. During this time first-echelon motorized rifle and tank battalions can complete their deployment for the assault.

One of the main requirements in the meeting engagement is to cut the enemy into pieces. Efforts must be made to establish superiority in forces and means over the enemy along the directions of attack. Significant importance is given to the conduct of quick maneuver by large units and units and their arrival at the flanks and rear of enemy force groupings in order to launch decisive strikes from different directions. This kind of action always leads to highly favorable results.

The direction of attack by friendly troops is better selected in areas suitable for wide maneuver by forces and means, which can also facilitate the exploitation of enemy open flanks and gaps present in enemy operational formations (dispositions).

The best form of destruction of the enemy in the meeting engagement is to launch heavy strikes, primarily artillery and aviation strikes, combined with decisive actions from motorized rifle and tank troops at the flanks of enemy main forces before they can deploy. Efforts to contain the enemy from the front by a portion of the troops and fire strikes are also used. Friendly forces conducting meeting strikes (blows) must move from the line of march into the gaps between enemy columns, divide the enemy into pieces and destroy them piecemeal. Friendly troops attacking in other directions must try to envelop enemy main groupings as deeply as possible by envelopment and turning movements in order to destroy them by strikes from flanks and rear. This form of destruction is more acceptable and reasonable in situations when enemy groupings of forces are moving in a relatively narrow area, while the situation of *front* forces and terrain conditions favor maneuver of troops to the enemy flanks.

When the position and status of *front* forces and terrain conditions do not require a double envelopment and turning movement of the enemy, the blow (strike) of the main forces is concentrated on one flank, while part of the *front* troops are deployed to contain enemy main groupings from the front.

When launching attacks against the enemy's flanks and rear is not possible as the character of the initiation of the offensive operation requires, the destruction is then conducted by several cutting [frontal] strikes from the main forces of the *front* combined with flank strikes conducted by a limited portion of the troops.

In all conditions it is necessary to accomplish the following:

—delay enemy advances;
—preempt the enemy in reaching favorable terrain lines;
—force the enemy to conduct combat actions in unfavorable terrain;
—launch preemptive strikes by aviation and artillery on the enemy;

—initiate surprise and decisive strikes by tank and motorized rifle troops on the flanks and rear of the enemy;
—foil all enemy attempts to start defensive actions.

In order to develop the success of *front* forces and to expand striking power, it is better to use second-echelon forces of the armies, *front* reserves, and, sometimes, to commit second-echelon forces of the *front*.

During actions to destroy enemy first-echelon forces, simultaneous efforts must be made to fight enemy reserves and other troops moving from different directions for a regroupment of enemy forces. Interdicting and preventing enemy reserves from moving to the area of on-going meeting engagements are conducted by joint efforts of the following:

—Long-Range Aviation;
—*front* aviation;
—airborne assault forces dropped (landed) in the rear of the enemy;
—rapid advance of tank formations from the front.

Destruction of Enemy Groupings of Forces Which Have Assumed the Defense

During the offensive operation, *front* forces may confront enemy defensive lines in the border areas and in the depth of enemy territory. Actions to destroy defending enemy groupings can be conducted both at the beginning and during the offensive operation.

At the beginning of the war attacking forces may have to break through different forms of enemy defenses, including a defense prepared in advance. The enemy, in most TSMAs, particularly in the Western TSMA, prepare in advance defensive lines, establish engineer obstacles, and in certain directions, lay nuclear mines and demolitions.

It must be assumed that in modern times particularly, [enemy] armed forces arrive at high speed and quickly occupy defensive lines with a high density of antitank means and powerful antitank fire systems.

This indicates that attacking *front* forces will be facing a thoroughly prepared, strong enemy capable of resisting massive strikes of tank and motorized rifle troops. Destruction of such enemy forces requires the following actions:

—sufficient, reliable suppression of enemy troops in penetration (breakthrough) areas and along their flanks by artillery fire and mortars delivered on specific targets;
—suppression of immediate enemy reserves, artillery, and control points by air strikes;
—decisive actions by first-echelon tank and motorized rifle troops;
—continuous support fire for the attacking troops so they may expand their efforts in decisive directions.

To destroy defending enemy groupings of forces, it is necessary to have the required superiority in forces and means over the enemy on specified directions of the strikes (blows).

The following must be taken into consideration:

—the direction of strikes (blows) and the width of penetration areas;
—combat capabilities of large units and units and their supporting means;
—the required density of troops to conduct the penetration (breakthrough);
—constant risk of mass-destruction weapons.

The *front* often conducts penetration in two areas. One will be the main penetration area. In some cases, the *front* may conduct the penetration in one area. The total width of the penetration areas of the *front* should not be less than 20-25 km so that a simultaneous commitment of 2-3 divisions for the development of the penetration can be ensured. The width of the penetration area of an army should be 8-10 km.

Depending on the characteristics and degree of preparation of the enemy defense, it can be penetrated from the line of march initially by forward detachments along with airborne assault troop actions and subsequently by the main forces. The penetration can also be conducted by the main forces of first-echelon divisions after brief preparation.

The requirement of attacking troops in terms of the number of artillery pieces for the penetration depends on the number and characteristics of likely enemy targets to be simultaneously hit during the artillery preparatory fire phase (excepting targets assigned to aviation and other means). Experience and calculations indicate that during penetration of enemy prepared defenses 90-100 or 110-120 guns and mortars per kilometer of penetration frontage are required.

Length of artillery preparatory fire depends on the character of enemy defenses and the availability of forces and means required to inflict sufficient losses. Artillery preparatory fire, in principle, must whenever possible be brief, powerful, and by surprise. During artillery preparatory fire, all forward weapons, including tanks and antitank guided rockets, will be employed to destroy individual enemy targets and to inflict losses on enemy weapon systems by direct fire.

During preparatory fire, artillery must suppress the following targets:

—enemy main resistance points on the forward edge of the defense and its immediate vicinity;
—enemy artillery and mortar batteries.

Simultaneously, aircraft launch strikes against reserves, artillery, and immediate control points. The assault must be initiated simultaneously and precisely at H-hour (*Ch-chas*). Tank and motorized rifle divisions should penetrate through enemy forward defense lines. They must destroy surviving troops and weapons and rapidly break through enemy rear forces by exploiting gaps in enemy combat dispositions and weakly covered areas.

The speed of penetrating enemy defenses greatly depends on the degree of suppression of the enemy by fire. In order to insure a highly rapid penetration, the enemy defense must be sufficiently suppressed in the entire tactical depth prior to initiation of the attack and during the attack. Depending on enemy capabilities in antitank weapons, enemy defenses particularly at the beginning of attack are heavily suppressed. For this purpose, the enemy's company resistance points, where a large number

of short-range antitank weapons are deployed, are sufficiently suppressed. Enemy antitank weapons from battalions and brigades deployed in the areas of company defense positions are destroyed simultaneously.

The enemy must be destroyed piecemeal. To achieve this the enemy's defending units must be isolated by massive air strikes and rapid actions. They should not be allowed to concentrate and reinforce their efforts, especially on vital directions. Therefore, during the penetration (breakthrough) phase the attacking forces must concentrate on rapidly developing the attack to the full depth of enemy territory. Aviation must launch strikes on deeper enemy reserves and on their approach routes to the area of ensuing combat actions. Rocket artillery can play an important role in the accomplishment of this task. This type of artillery is capable of launching massive attacks on enemy reserves in the course of the conduct of the operation.

The attack must be developed along directions where enemy resistance points and resistance centers are bypassed. During the development of the attack, all measures must be taken to deny the enemy an opportunity to establish organized defenses in depth. Enemy attempts to delay the advance of troops and to assume defenses along prepared lines must be foiled by the following:

—artillery and air strikes;
—airborne assault troops employment;
—rapid action of motorized rifle and tank troops.

In this case, it is required that artillery and air strikes be launched before friendly forces reach enemy defensive lines. Friendly troops then can pass through enemy defenses from the line of march and rapidly destroy the enemy. Attacking forces, after the breakthrough of enemy defenses, must be ready for pursuit and completing the enemy's destruction.

Development of the Attack

In order to ensure development of the attack the following measures must be taken:

—expand and enhance efforts of the *front* on the main directions of attack;
—facilitate the advance of the *front* forces particularly tank armies and tank divisions at high speeds.

These actions are taken so that enemy efforts to establish defenses on successive lines or to initiate active actions against our troops are foiled. Air strikes are directed toward destroying enemy nuclear delivery means, enemy troop resistance, and control points, aviation, and reserves. The attacking forces, as a rule, must push forward and reach the areas of enemy nuclear weapons, airfields, and other vital targets as fast as possible.

As in nuclear war, an important and decisive role will be played by various tactical and operational airborne assault actions to develop the attack in a conventional war. Airborne Troops by their bold and decisive action in seizing vital targets and areas in the enemy rear will facilitate successful attacks by the main groupings of *front* forces and quickly complete the enemy's destruction.

In contemporary times, the enemy has far more capabilities than in the previous wars to conduct fast maneuver by his reserves and, therefore, to launch powerful counterblows (counterstrikes) on attacking troops. Enemy counterblows would be combined with heavy air strikes and the massive employment of artillery. One of the most important missions during the operation is foiling enemy prepared counterblows (counterstrikes). Vital importance is given to the following:

—inflicting losses on approaching and maneuvering enemy reserves;
—delaying the enemy by air strikes and artillery fire;
—actions by airborne assault troops;
—rapidly advancing to overtake the enemy;
—seizing of favorable terrain lines.

Under conditions when the correlation of forces and means is favorable, it is better to destroy enemy counterattacking groupings by delivering massive *front* aviation strikes and long-range artillery fire during their approach and deployment. Combined with the aforementioned, motorized rifle and tank formations

attack at one or both flanks of counterattacking enemy groupings. To support the actions of friendly forces attacking enemy flanks, the most dangerous enemy groupings can be contained from the front by a portion of the friendly troops.

When the correlation of forces and means are not in favor of the friendly forces, it is better to do the following:

—initially, part of the troops temporarily assume the defense on the direction of enemy counterblows (counterstrikes);
—repel enemy counterstrikes;
—inflict maximum losses on the enemy;
—destroy it [counterstrike or counterblow] by striking at the flank of the enemy.

Meanwhile, along with repelling enemy counterblows, the attack on other directions must be developed to the depth. To support this type of action, sometimes the second-echelon of the *front* can be committed into combat.

During the development of the *front* offensive operation, particularly in the Western TSMA, *front* forces will have to conduct assault river crossings over a large number of rivers and canals.

In contemporary offensive operations the assault river crossing must be conducted by surprise. It is conducted from the line of march on a wide front as the troops approach the water obstacle. Crossing troops should develop the attack on the far bank of the water obstacle without interruption.

An important mission of *front* forces is destroying the enemy prior to his arrival at the water obstacle. The enemy then is denied the opportunity to cross to the far bank. Simultaneously, the destruction of enemy reserves deployed on the far bank of the water obstacle, or enemy troops moving from the depth to the water obstacle, is an important task of *front* forces.

Front aviation launches strikes on enemy nuclear delivery means and the main groupings of enemy retreating forces, particularly during their concentration at the water obstacle. In the meantime, airborne assault troops are employed to prevent the arrival of enemy reserves on the far bank. The airborne assault troops also do the following:

—seize and retain bridges and crossings;
—prevent the destruction of hydrotechnical installations on water obstacles, thereby, avoiding inundation of the terrain with water.

The success in assault river crossings from the line of march is achieved through advance preparations made during the movement of troops to the water obstacles. For this purpose, areas of assault crossings and the methods of troop movements to water obstacles are determined in advance. Under cover of air defense means and fighter aviation the following tasks are accomplished:

—assault crossing means are moved forward;
—pontoon bridges are deployed rapidly to their sites;
—commandant service support [traffic control] is organized on the main routes and at the crossing sites.

The *front* commander makes decisions on assault river crossings prior to the arrival of the troops at the water obstacle. Troop missions are assigned in such a way that time is allocated to prepare for the crossing before troops actually reach the water obstacle.

In order to facilitate and ensure a successful assault river crossing, special importance is given to seizing bridges and existing crossing sites. These tasks are conducted by airborne assault troops, forward detachments, and special detachments assigned and detached from first-echelon forces.

V. Initiation of Action by Front *Forces with the Employment of Nuclear Weapons*

In modern times, an important characteristic of conducting a *front* offensive operation with the employment of conventional weapons only, is the constant readiness of the *front* to deliver a nuclear strike and the readiness of troops for action under such conditions. This phase can begin at any time. However, it is more likely to erupt during situations which are very crucial to the enemy. One crucial situation develops when main groupings of the enemy's first-echelon troops are destroyed, attacking

forces of the *front* break into vital enemy territory or occupy it, and the enemy cannot delay the subsequent attack and advance of our forces by conventional weapons. The transition to the use of nuclear weapons, qualitatively, is a new phase in the course of the operation. During this phase both sides will try to change the situation fundamentally in their favor and impose heavy losses on the other side.

The most important tasks in this phase are the following:

—delivering the initial massive nuclear strike;
—maintaining the combat capability of troops;
—supporting the high speed advance of troops in the wake of the initial nuclear strike.

In order to ensure timely delivery of the initial nuclear strike the following actions are required:

—continuous detection and surveillance of targets to be destroyed;
—detection of enemy measures which can indicate the beginning of the enemy's direct preparation to use nuclear weapons;
—constant reconfirmation of the plan for the initial nuclear strike;
—maintaining constantly high combat readiness of the *front's* troops and aircraft for delivering nuclear strikes;
—maintaining viable control of forces and means;
—taking direct measures to disperse troops and provide for their protection against the impact of mass destruction weapons when indications of enemy preparation are disclosed.

Special attention must be directed toward political-morale and psychological preparation measures for the personnel. They must be inculcated with the spirit of inner discipline, resistance, endurance, and devotion to duty in the interest of the accomplishment of combat missions.

The main effort of all types of reconnaissance must be directed right from the outset of the operation to detecting the indications of the enemy's direct preparation for the

employment of nuclear weapons. Reconnaissance constantly must observe the situation of enemy units which are capable of using nuclear weapons, and also supply stockpiles and distribution points for nuclear ammunition. Reconnaissance also monitors the actions of troop control organs and communication means which constitute the control system of forces and means delivering the nuclear strike.

In solving these tasks a major role is played by space reconnaissance conducted by satellites which are currently moving in orbits at an altitude of 200-250 km. These space means, in one trip around the earth, can photograph an area 40-50 km wide and can detect launch positions for land-based rockets, airfields, the aircraft based there, and also indications of troop actions.

Reconnaissance provides timely detection of indications of direct enemy nuclear strike preparations and an accurate determination of the place of nuclear weapon employment. The *front* commander then has the ability to take actions to forestall and overtake the enemy in delivering the initial nuclear strike.

To ensure preempting the enemy in delivering the nuclear strike, special importance is given to maintaining high combat readiness of the *front's* nuclear delivery means. This is achieved by the following:

—timely upgrading of the level of combat readiness of rocket troops and aviation and supplying them with nuclear rounds;

—constantly reconfirming the combat missions for launching the nuclear strike in accordance with the changes in the situation;

—centrally controlling and in a timely manner relocating the positions of the rocket troops and moving *front* aviation during the conduct of the operation.

The *front* staff constantly must acquire information about changes in targets for the initial nuclear strike and, in accordance with the decision of the *front* commander, issue instructions to the rocket troops and aviation about their further combat readiness for the delivery of the nuclear strike.

Upon detection of enemy preparations for a nuclear strike, it is required that, by using conventional means, the enemy's

nuclear delivery means be weakened to the maximum extent and also, if possible, that the speed of the attack be increased.

During the launch phase of the initial nuclear strike the enemy's nuclear groupings must be greatly weakened by the following:

—surprise strikes by aviation [see figure 4] and artillery;
—rapid penetration by attacking troops to the firing positions of nuclear delivery means;
—action by forward and special detachments, airborne assault troops and diversionary-reconnaissance groups.

When organizing the *front's* initial nuclear strike, which is planned to be launched after an actual phase of combat with conventional weapons only, it must be noted that in such circumstances the forces of both sides are fully deployed and are in direct contact with one another. Moreover in such cases, in addition to operational-tactical delivery means, the nuclear means of first-echelon divisions would also be deployed. This indicates that the number of targets to be hit would be far greater than those planned for destruction during the initial nuclear strike when it is organized at the beginning of the offensive operation. Since *front* forces will be in direct contact with the enemy when planning to inflict losses on him, special attention is paid to selection of targets for nuclear weapons, use of favorable types of nuclear bursts, and the calculation of correct security distance lines for the attacking troops.

The complex nature of, and rapid changes in, the situation in this phase, particularly changes in targets to be destroyed by nuclear delivery means, precludes the *front* from always selecting and specifying targets for all means employed in the initial nuclear strike. Therefore, it is required that army and division commanders widely exercise their initiative in selecting units and large units as targets in accordance with their assigned missions.

The most important issue is timeliness in instruction of the armies, aviation, air defense forces, reserves, and also the rear service organs on targets of nuclear weapons, protection measures, and the nature of action in this phase. The troops are

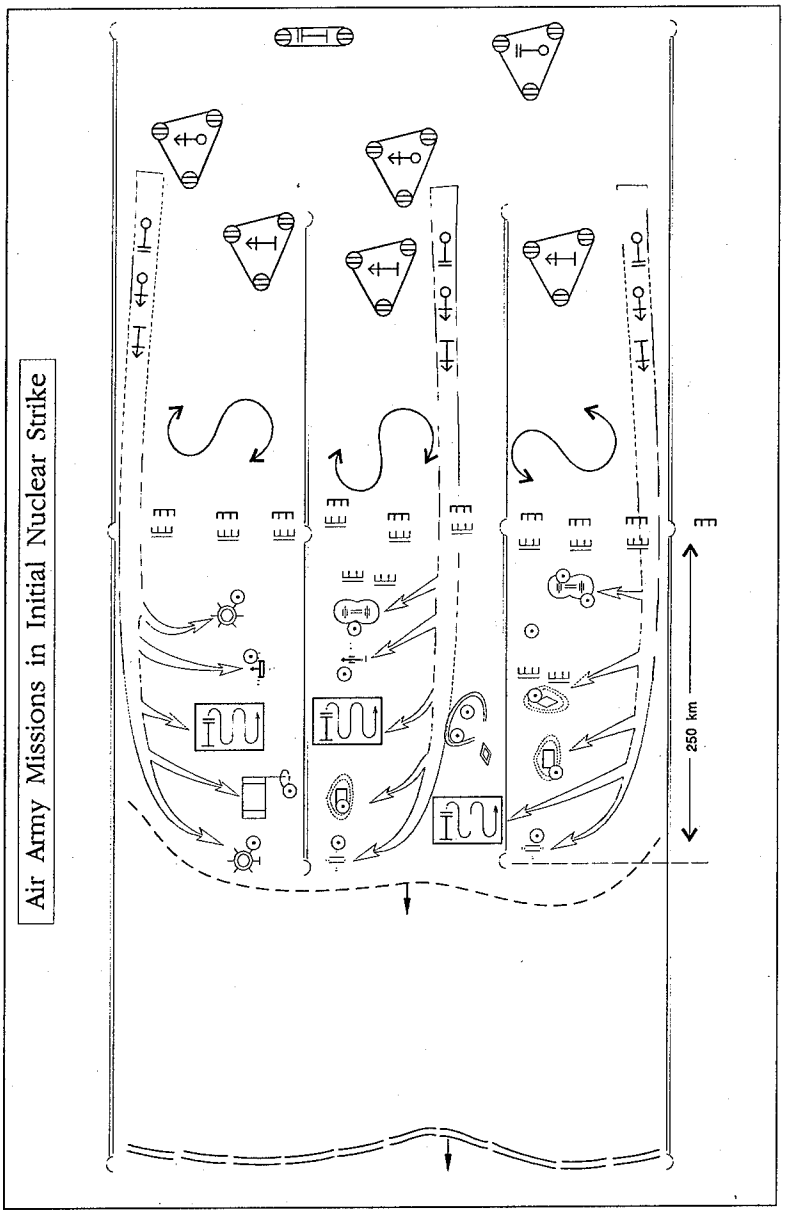

Figure 4

instructed on the exploitation of the consequences of nuclear strikes and the interaction amongst the troops is reconfirmed.

The form (*postroenie*) of the initial nuclear strike, when it is launched during the conduct of the offensive operation, depends on reconnaissance data about the targets to be destroyed, accuracy of such information, and the state of readiness of the rocket troops and aviation. In all circumstances, when the initial nuclear strike is launched during the conduct of the offensive operation, the maximum number of forces and means are assigned and the strike is conducted in the shortest time.

During the conduct of the initial nuclear strike, decisive losses must be inflicted on nuclear delivery means of opposing enemy ground force groupings (primarily first-echelon large units), aviation, air defense forces and means, and enemy control points.

In exploiting nuclear strikes, attacking troops must rapidly develop the attack by large units and units which have combat capability. At the same time special measures must be organized and conducted in the *front* and armies for the restoration of the combat capability of large units and units hit by enemy nuclear strikes and for elimination of the consequences of nuclear weapons.

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CHAPTER THREE

Front *Defensive Operations*

Front defensive operations are conducted within the framework of strategic operations in the TSMA, and are an integrated part of the strategic operation. The role and position of a *front* defensive operation in strategic operations is determined by many factors, of which the most important are the importance and conditions of the TSMA; the concept of the strategic operation and the phase in which the *front* takes up the defense; the significance of the directions to be defended by the *front* and the conditions of coordination with them; the composition and character of enemy action; the chemical, nuclear, and biological situation; the terrain conditions and other factors.

I. General Principles of Front *Defensive Operations*

Conditions and Circumstances for Assuming the Defense

In modern warfare *front* defensive operations are a temporary form of combat action. Defense is assumed when, due to inadequate forces and means, offensive action is not possible or,

considering operational and strategic concepts and other factors, it is not desirable.

Initiation of defensive operations by the *front* can take place prior to the outbreak of war, at the beginning of war, and also in the course of military operations. Prior to the commencement of war, the *front* may assume the defense on one direction to repel an attack by superior enemy forces. By the commencement of war, the need to commit the *front* to the defense is felt when it has suffered heavy casualties due to enemy nuclear strikes, while the enemy still maintains the capability to attack. This may happen in case of enemy surprise nuclear strikes and also in case of a mutual nuclear meeting engagement. At the beginning of a war conducted without the employment of nuclear weapons, the possibility of the *front* assuming the defense cannot be ruled out when the enemy attacks with superior forces or in case the friendly forces fail to achieve success in a meeting engagement in border areas.

In the course of offensive operations the *front* may take up the defense to repel a planned or already-initiated enemy counterstrike or counteroffensive, when continuation of attack by the *front* does not contribute to the establishment of the required superiority in forces and means over the enemy to destroy its attacking grouping in a meeting engagement.

At the end of offensive operations, depending on the concept of the Supreme High Command, the *front* may assume the defense at the final line reached by its troops and conduct defensive operations until the need for conducting subsequent offensive operations on that particular direction should arise. In World War II, in the closing phase of the war, some *fronts* shifted to the defense for several months. In modern times, while conducting offensive operations, the *front* may also assume the defense to cover an exposed flank of a strategic grouping of attacking forces in the TSMA or to repel the attacks of the enemy's large encircled or blockaded groupings attempting to break through the encirclement. While the duration of defensive operations will be greatly decreased, such possibilities are not out of the question.

Defensive operations may also be undertaken when the defending forces are in parity with those of the enemy or even

superior to the opposing troops. In such cases the aim of the defense will be to inflict casualties on the enemy by defensive action, followed by initiation of an attack against an already-exhausted enemy in the manner of the operation conducted in the Kursk salient in 1943. In modern conditions, without the employment of nuclear weapons, such a development cannot be excluded.

As in the past war, nowadays assuming the defense may be initiated in the presence of close contact or without contact with enemy main forces. These different conditions have decisive impact on the preparations of defensive operations. The *front's* defensive operation on an important direction of the Western TSMA usually constitutes a component part of strategic offensive operations, and it is conducted in support of the attack by the main grouping of friendly forces.

As discussed above, the *front* may assume the defense under different circumstances. The aim of the operation and the missions of *front* troops, as well as the method of preparation and conduct of the defensive operation, are determined in accordance with the actual circumstances.

The Aim of the Front's *Defensive Operation*

The aim of the *front* defensive operation is the final outcome that should be achieved by *front* troops through defensive action. The aim of a defensive operation is specified by the Supreme High Command, and depends on the following factors:

—concept and missions of strategic operations in the TSMA;
—significance of the direction to be defended;
—availability of, and time for, receiving nuclear rounds;
—combat missions of adjacent units and conditions of coordination with them;
—likelihood of enemy ground and air attacks.

Moreover, the capabilities of strategic nuclear means to be planned and employed in the *front's* area are also taken into account. In World War II the aims of *front* defensive operations varied. At the initial stage of that war the *fronts* established the defense in order to prevent enemy penetration on important

directions leading to industrial, administrative, and political centers, and targets and lines of strategic significance in order to gain time for concentration, build-up, and deployment of reserves appointed to launch counterstrikes and initiate the counteroffensive. Later on, with the equipping of Soviet forces with artillery and tanks, along with larger concentrations of forces and means in defense, and also with the development of general changes in strategic capabilities and status of *fronts*, the aims of defensive operations also changed. Therefore, when defensive operations were assumed in the course of a friendly strategic offensive, their aims were: holding the lines and areas seized by attack, inflicting casualties on the enemy, and gaining time for preparation of the offensive on that direction or other directions (such as the operations of the Don and Stalingrad *fronts* in 1942).

In modern conditions, due to the availability of nuclear weapons, the enhancement of the firepower of conventional weapons, particularly antitank weapons, and the intensification of the striking power and maneuver capabilities of the troops, the capabilities of defending forces are greatly increased. Therefore, the aim of the *front's* defensive operation is to foil an enemy prepared attack during concentration and deployment of the *front's* strike grouping.

Meanwhile, under most conditions, the aim of defensive operations will be to repel enemy attacks, to inflict casualties on the enemy, and to retain important lines and vital areas. The aim of defensive operations may also include the establishment of favorable conditions for subsequent offensive operations, if such an operation is intended.

In the course of offensive operations, upon reaching the coastlines, the aim of the defensive operation will be to repel the landing of enemy seaborne and airborne assault troops and to destroy them once they have landed. The aim of the *front's* defensive operation at the beginning of the war is to prevent an enemy attack on friendly territory, to hold occupied lines at the border area, and to provide favorable conditions for the deployment of strategic groupings of friendly forces and their organized commitment into combat.

Missions and Combat Compositions of the Front

The missions of the troops, the accomplishment of which can ensure the achievement of the aim of the defensive operation, could be the following:

—inflicting heavy casualties on the enemy along the approaches leading to defended areas;
—repelling the attack of enemy forces, including enemy air attacks, and holding occupied positions;
—destroying enemy forces that have penetrated into defensive areas;
—destroying enemy airborne assault troops.

In some individual cases, with the employment of nuclear weapons, the aim of a defensive operation can be achieved through the accomplishment of a single mission, i.e., inflicting decisive casualties on enemy forces during their concentration or their deployment in attack positions, to such an extent that the enemy becomes unable to initiate the attack without receiving reinforcements and additional means, or the enemy may cancel his intention to attack.

To achieve the aim of defensive operations and to accomplish the specified missions in the operation, the commander in chief specifies the combat composition of the *front*, which may comprise three to four armies, or two to three armies; one to two army corps; an air army; one [surface-to-surface] rocket brigade; as well as one to three motorized rifle or tank divisions as the *front* reserve. The above-mentioned composition of the *front* will include some 12 to 20 motorized rifle and tank divisions, three to four Air Force divisions, and three to four separate aviation regiments. When defending seacoasts, naval units, particularly naval bases and coastal rocket (artillery) units, are placed under the operational command of the *front*. The *front* is assigned a defensive area. The width of such an area generally depends on the composition of the *front*, the grouping of enemy forces and their expected attacks, and also on the nature of the TSMA and terrain conditions. In the Western TSMA, the width of the *front's* defensive area might be 350 to 400 km, while in other theaters it can be larger.

Characteristics of Modern Defensive Operations

The *front's* defensive operation includes strikes of nuclear weapons that are mutually coordinated in terms of aim, time, and place; combat action of *front* troops conducted in the framework of a unified plan, in accordance with the concept of the strategic operation in the theater; and the employment of means of the Supreme High Command in support of the *front* to repel the attack of the enemy and to hold the lines occupied.

In modern times the basis of the defense is constituted by the following:

—nuclear strikes coordinated with the fire plan of other weapons (when defense is conducted without the employment of nuclear weapons, the firepower of conventional weapons will be of prime importance);
—a reliable air defense system and protection of the troops and rear service installations against enemy weapons of mass destruction;
—firm resistance of the troops in holding vital lines and objectives;
—wide maneuver by forces and means;
—decisive counterattacks.

The nature and characteristics of modern defensive operations are fundamentally different from defensive operations conducted in World War II. The reason is mainly the availability of nuclear weapons, as well as the development of the strike and maneuvering powers of the troops and their equipment with various combat vehicles and other equipment.

The increased capabilities of defending troops in delivering nuclear strikes against the enemy at greater depths provides chances to destroy enemy nuclear delivery means and to inflict heavy casualties on the enemy force groupings, which may decrease or even eliminate the enemy's superiority in forces and means. Meanwhile, the enemy will also have sufficient numbers of nuclear weapons capable of inflicting heavy casualties on defending troops during the attack. This requires that the enemy should be preempted in launching nuclear attacks when the operation is conducted with the employment of nuclear

weapons. By doing so the defending forces may cause heavy losses to the enemy through the use of nuclear weapons. Nuclear weapons are used when enemy troops are located in open areas in concentrated formations and groupings and when they are at such a distance from defensive areas that they may be effectively engaged while ensuring the safety and protection of friendly troops.

The capability of the enemy to massively employ nuclear weapons against defending forces increases the importance of wise exploitation of the terrain and the significance of quickly constructing engineer works and fortifications, as well as the importance of expertly establishing of defensive dispositions and deceiving of the enemy about the location and likely action of friendly troops. The enemy should be deceived through the establishment of a system of alternate and deceptive defensive positions and areas of troop concentration, and also by applying operational *maskirovka* measures and other actions. This may greatly decrease the effectiveness of the employment of nuclear weapons by the enemy.

However, it is not always possible to avoid the casualties and losses caused by enemy nuclear attacks. Therefore, defending forces are inevitably forced to undertake a wide range of complex measures to eliminate the impact of the enemy's nuclear strikes. In some cases this should be done simultaneously while conducting combat actions to repel enemy ground and air attacks. Under such circumstances measures must be promptly taken to restore interrupted troop control, to evacuate vehicles and equipment from the areas of destruction, and to take a number of other necessary actions such as organizing medical aid to personnel; maneuvering forces and means to seal off the gaps created by enemy nuclear strikes; extinguishing fires and removing large obstacles; and readjusting the mission of the troops, particularly those of first-echelon troops, [surface-to-surface] rocket, and air defense troops. Following the initial enemy nuclear strike considerable readjustment and changes in actual *front* defensive dispositions, and on some axes, establishment of new defensive lines through the commitment of *front* and Supreme High Command reserves, may become necessary.

In defensive operations prepared during peacetime, or while undertaking defensive operations in the course of the attack without the employment of nuclear weapons, the grouping of *front* defending troops should comply with the conditions of combat operations with or without the use of nuclear weapons. Therefore, a number of points are taken into consideration, and actions are carried out accordingly:

First, the width of the defensive zone for first-echelon large units of the armies operating on likely directions of an enemy main attack should be determined in such a way that, on the one hand, it ensures a dispersion of the troops that protects them from enemy nuclear strikes, and on the other hand, provides a potential for concentrating the required density of conventional means for successful defensive action without the use of nuclear weapons. As the outcome of calculations suggest, the width of division defensive areas should be 15 to 20 km. On secondary axes this can be 30 km or more.

Second, while operating with the use of nuclear weapons, additional defensive positions in the rear of the first defensive belt should be prepared for occupation by reserves moving from the rear in order to cover and block the gaps created as a result of enemy nuclear attacks.

Third, the reinforcement of first-echelon troops during the employment of nuclear weapons is basically achieved through the commitment of forces and means deployed in the rear. Therefore, strong reserves and second-echelon troops should be retained, and they must be deployed on the likely directions of enemy attack, so that they can move in the shortest possible time to reinforce the first-echelon troops and also launch heavy counterattacks along such directions.

Fourth, in case of employment of nuclear weapons, counterattacks are planned to be launched against the flanks and rear of enemy forces that have penetrated into the defensive area, along with the exploitation of the impact of friendly nuclear strikes, which are normally launched against the main grouping of enemy penetrating forces.

Along with the development of capabilities to defend, the role of activeness defense, greatly increased in modern times,

includes delivering nuclear strikes and conventional weapons fire against the enemy, and wide maneuvers by forces, means, fires, and counterstrikes. The most striking indicator of the activeness of defense is the counterattack.

The most important condition that serves the purpose of operating with activeness is the firm holding and retention of key areas and lines on the directions of enemy attack. This provides favorable conditions for conducting the maneuver of forces and means. It also supports the most effective use of nuclear and all other types of weapons, contains the maneuver of an attacking enemy, helps to force the concentration of enemy troops in individual areas where they can be hit by decisive strikes of defending troops, and facilitates the piecemeal destruction of enemy troops.

When defending on a wide *front*, maneuver is of particular importance. In such conditions the availability of transport helicopters for quick movement of motorized rifle, antitank, combat engineer, and other units, and also for transportation of engineer mines, ammunition, and other supplies and equipment greatly helps the conduct of rapid maneuvers. The construction of engineer works and fortifications in a short time is facilitated through the employment of combat engineer equipment and machinery capable of accomplishing construction of engineer works with speed and efficiency.

Due to the introduction of increased numbers of enemy tactical aircraft capable of using nuclear and conventional weapons, air defense has become particularly important in protecting troop and rear service targets against enemy air attacks and providing sufficient cover for personnel and combat equipment against enemy attempts to inflict heavy losses on them.

Equipping troops with enormous numbers of tanks and other armored vehicles has greatly enhanced the importance of antitank defense, which now constitutes the basic nature of combat actions. Antitank defense is established on all likely directions of enemy tank attacks, and it is concentrated on the likely direction of enemy main attack.

The equipment of troops with various electronic means has increased the importance of radio-electronic warfare. The nature

of radio-electronic warfare includes actions to jam enemy electronic systems and means, and protect friendly forces against enemy electronic reconnaissance, as well as against its jamming and its weapons equipped with automatic guidance systems. In defensive operations conducted without the employment of nuclear weapons, ensuring the constant readiness of the troops to pass over to operations with the use of nuclear weapons is of particular importance. Such a state of readiness should enable friendly forces to deliver timely massive nuclear strikes against the enemy in order to foil his nuclear strikes; inflict heavy losses on his ground and air forces; and ensure the exploitation of the impact of nuclear strikes by friendly troops who overcome damaged enemy forces through launching army and *front* counterblows, or through the initiation of attack by all *front* troops.

To sum up, the very nature and character of modern defense set the requirements for conducting such operations. The requirements demand that the defense must be firm, active, nuclear resistant, tank resistant, aviation resistant, and able to resist enemy chemical and artillery attacks. It should also be able to stand up against massive enemy tank and infantry attacks, and should not allow landings and combat actions by enemy airborne and air mobile assault troops. Finally, it should be capable of destroying enemy troops that have penetrated the defensive area.

II. Preparation of Defensive Operations

Content and Method of Preparing for Defensive Operations—**Front** *Staff and Command Procedures*

The success of a defensive operation depends primarily on its detailed, thorough preparation. Preparation for defensive operations comprises planning and taking required measures to organize the operation by the commander, staff, and chiefs of arms and services, as well as by Party and political organizations, plus measures concerning the organization of staff procedures and the action of combat troops and rear service echelons, in

accordance with the decisions made by the *front* commander. The principal measures concerning preparations for defensive operations are the following:

—making the decision;
—issuing missions to the troops;
—planning the operation;
—regrouping and replacing troops if required;
—occupying specified defensive areas by troops;
—organizing air defense;
—organizing counterbombardment, i.e., counterpreparatory fire (if planned to be conducted in defensive operation);
—planning and preparing the army's and *front's* counterstrikes;
—organizing coordination;
—preparing engineer works;
—organizing and conducting Party and political indoctrination;
—organizing all-around support of the troops;
—organizing troop control;
—establishing and deploying materiel reserves.

The methods and sequence of accomplishing the above-mentioned actions, as well as the actions of the commander and staff, depend on the conditions of the situation under which the operation is prepared. In this connection the following factors are significant:

—the time available for the establishment of defensive troop groupings and for preparing defensive engineer fortifications and other constructions. This will be different when assuming the defense without close contact with the enemy, than it would be when taking up the defensive in the course of an enemy-initiated attack;
—types of weapons [nuclear or conventional] to be employed in the operation;
—status, operational situation, and nature of combat actions of friendly and enemy troops at the time of receiving the defensive mission from the *front*;

—availability of nuclear and conventional weapons and materiel reserves.

In preparing the operation prior to the outbreak of war, the *front* will have plenty of time at its disposal. But in such a case, only those actions are taken in advance that can be conducted in secrecy, so that the security of the concept of operations is not jeopardized, and so that the enemy gets the wrong impression about the actual plans of friendly forces. Such measures can be itemized as follows:

—making the decision and planning the operation;
—planning the movement of troops to specified areas and planning the engineer preparation of the terrain;
—organizing of the method of coordination;
—organizing of all types of support;
—ensuring troop control.

Practically, measures connected with the movement of the troops to occupy defensive areas and also with engineer preparation of terrain can usually be taken in a period of threat with the permission of the Armed Forces' General Staff. Only the reconnaissance of defensive areas and the areas of deployment of troops, the construction of some roads and bridges, the collection and concealment of materiel means, the establishment of protected command posts, and the installment of some communications lines and signal centers can be carried out in advance.

In preparing for defensive operations in peacetime, the *front* (military district, group of forces) commander and staff will have sufficient time to analyze the mission in more detail, and to evaluate and assess all matters and factors affecting the decision in a rational fashion for making reasoned and detailed calculations. In such cases, the chiefs of arms and services increasingly contribute in the process of making the decision and in overall command and staff procedures. Moreover, planning the operation, and the movement of troops to specified defensive areas, plus the organization of support, is accomplished by the *front* staff in more detail, along with substantiated calculations.

In order to ensure secrecy, a limited number of responsible members of the *front's* field troop control personnel are called upon to resolve questions connected with the preparation of the operation. The documents related to the planning of the armies' operations may also be prepared at the *front* (military district or group of forces) headquarters.

To serve this purpose, and with the acquiescence of the Armed Forces' General Staff, operations groups of army staff officers, led by army commanders, are called to the *front* headquarters. Practical actions by *front* (army) commanders, on organizing the defense made within the operational formations and large units, start by receiving instructions to move *front* troops to specified defensive areas. During this phase, the missions of the troops are reconfirmed, coordination (on the map, on terrain models, or directly on the terrain) is organized, a fire system is established, engineer construction and fortifications are established, and all other questions concerning the preparation of the operation are resolved. The *front* and army staffs and their chiefs of arms and services control the execution of instructions, while extending assistance to subordinates in their assigned missions.

Resolving questions regarding preparation of operations in peacetime, prior to the arrival of enemy forces to border areas, is a very difficult task, because advance determination of the enemy's likely concept of operation is a tremendously complicated process. As the enemy starts moving toward the international borders, the possibilities of disclosing his likely intentions and concept of operation may increase. Therefore, readjustment of some elements of the commander's decision, as well as changes in the groupings and missions of the troops, fire plan, engineer obstacles, and in the methods of coordination, may become necessary.

Preparing for defensive operations in a situation in which the *front* takes up the defense while conducting offensive operations is different from the preparation of defensive operations prior to the outbreak of war. The difference is due to the fact that, in the former case, limited time will be available for organizing the defense by commanders and staffs and for practical actions by

the troops to prepare for the operation. In this case, the sequence of preparations will be such that parallel actions will be carried out at different echelons, while allocating the maximum amount of time to the troops for taking practical measures on preparing for defense and carrying out their tasks in accordance with the decision of the *front* commander.

When friendly troops take up the defense against expected enemy preplanned counterattacks, i.e., in the absence of close contact with the counterattacking enemy, or when the troops assume the defense at the end of an offensive operation, the staffs and troops will have relatively more time for preparing defensive operations. On receiving the order to defend, the commander makes the decision on a map in which he primarily specifies the required defensive grouping of *front* troops and the method of establishing such a grouping in the process of changing from offensive to defensive action. The commander adjusts the missions of the troops for the phase of their advance, as a continuation of attack to an anticipated defensive line, so that they reach the line where they are to assume the defense in such a way that they comply with the planned concept of the defensive operation. This method is effective only when a force grouping quickly assumes the defense in the closing phase of an attack. This may greatly decrease the amount of time required to accomplish necessary tasks in support of preparing the defense. In such cases, the decision is made in the shortest possible time. The *front* staff and chiefs of arms and services are fully briefed on assigned missions, they prepare information on the situation and capabilities of friendly troops, and forward their recommendations on the employment of their arms and services. The *front* commander will usually listen only to recommendations on such matters that are of special interest to him.

When the troops pass over to the defense during the attack of superior enemy forces, or when friendly troops are forced to take up the defense following their failure to achieve success in a meeting engagement, the preparation of defensive operations develops in the course of combat action simultaneously with attempts to repel enemy ground and air attacks. This is done primarily to stabilize the situation of first-echelon troops on favorable lines against enemy strike groupings.

The nature of actions taken by the *front* commander and staff in such conditions is such that the decision for operations is made successively for different directions. The decision-making process in such situations begins on the main direction with issuance of missions to troops operating on that direction. First the main issues connected with the aim of holding favorable lines, and the establishment of defensive force groupings are resolved. Subsequently, matters related to troop coordination are organized or confirmed, the counterattack and troop control are planned and prepared, and the engineer preparation of terrain is further improved. All measures concerning preparation of the operation are taken simultaneously at different echelons.

In situations in which *front* troops suffer heavy casualties from massive enemy nuclear strikes, either at the beginning of military actions or in the course of offensive operations by friendly forces started with the use of nuclear weapons, the preparation for defensive operations will be conducted in the face of great difficulties and will be carried out under complicated conditions. Time will be limited for the accomplishment of a large number of actions to prepare for the defensive operation. In such situations, troops should first be evacuated from the areas of intense radiation, and prompt and urgent measures should be taken to assist casualties. Moreover, favorable lines on vital directions are selected for defense, and the troops allocated to form the first-echelon of the *front* are quickly designated and missions are assigned to [surface-to-surface] rocket troops, aviation, and artillery to deliver nuclear and fire strikes on enemy nuclear delivery means and his strongest groupings. Then, on the basis of the decision made for defensive operations, the *front* staff organizes the plan for restoring the combat capabilities of the troops and the elimination of the impact of enemy nuclear strikes.

As discussed above, the nature of actions in preparation of an operation, the sequence of their execution, and the method of command and staff procedures, will be different in various situations. Under all circumstances, constant troop readiness to repel ground and air attacks of the enemy, detailed assessment, and wise use of terrain, as well as the timely and organized

preparation and holding of defense, should be ensured. In addition to actions taken by the *front* commander and staff on organizing the defense (such as making the decision, planning the operation, organization of coordination and all types of support) in all conditions, the passing over to the defense should be deeply and comprehensively considered. The defense must be harmonized with the actual situation and with anticipation of the development of combat action, no matter how much these thoughts are reflected in planning and combat documents.

When time is available, a calendar plan for preparing the operation is worked out to include actions to be taken by the commander and staff, chiefs of arms and services, Party and political organizations, and also those taken by the troops. This plan also reflects the time of accomplishment and the people responsible for the execution of planned actions. In the course of preparing for operations, the plan is further developed and confirmed, while its implementation is controlled by the staff.

Making the Decision and the Content of the Decision

During the analysis of aims and missions, the commander should accurately determine the role of the *front* in strategic operations and its specified missions in defense; the relationship between the missions of the *front* and those assigned to adjacent *fronts*; and the extent of contribution of strategic means and national PVO Forces to the accomplishment of the missions assigned to the *front* and the method of coordination with them. As deductions from the mission analysis, the *front* commander should determine: what actions should be taken immediately or in a short time; what measures should be taken by the staff and the chiefs of arms and services for preparing the operation; and what instructions should be issued to the troops.

The estimate of the situation is the process of studying and analyzing information on enemy and friendly forces, adjacent units, and the terrain; assessment of the radioactive, chemical, bacteriological, and radio-electronic situation; analysis of national structure and class composition of the population in the operational area, their political thinking and their attitude

toward friendly forces; assessment of the economic situation in combat operation areas; and also the hydrometeorological situation, the season, and the duration of daylight and night. As a result of the estimate of the situation, the *front* commander determines the following points:

—likely concept and character of enemy operations; enemy capabilities to use nuclear and chemical weapons, principal tasks of reconnaissance; relative correlation of forces along the likely directions of enemy blows; what groupings of the forces should be formed and at what time; the measures to be taken on restoring the combat capabilities of troops in case they are exposed to enemy nuclear strikes;
—capabilities of the *front* to attempt to foil the enemy's attack or to weaken his strikes through the use of nuclear or conventional weapons during the enemy's movement along the approaches leading to the defense; to repel enemy ground and air attacks; and to destroy enemy troops that have penetrated into defensive areas;
—the direction along which the main effort of the *front* is concentrated and its terrain features, the retention of which ensures the overall firmness and integrity of the defense;
—the main lines for deployment of the troops and for the establishment of defensive belts of the army's first and second-echelon large units; the areas and lines of the *front's* second-echelon troops and reserves; fire position areas for surface-to-surface and surface-to-air rockets; the direction of maneuver of forces and means in the course of the operation; and the deployment areas of command posts.

The *front* commander specifies the following points in his decision for a defensive operation:

—the concept of the operation;
—the missions of nuclear weapons;
—the missions of first-echelon armies;
—the missions of second-echelon armies;
—the missions of the combined arms reserve;
—the missions of rocket troops and artillery;
—the missions of aviation;

—the missions of air defense troops;
—the missions of engineer and chemical troops;
—composition and missions of the mobile antitank reserve and mobile obstacles detachments;
—the time of occupation of defensive positions by the troops and the time of readiness of the fire system;
—the nature and gradual sequence of accomplishing engineer work;
—organization of troop control.

In the concept of the operation, the following points are specified:

—grouping of enemy forces, their likely directions of attack, and the time of initiation of attack by the enemy force grouping;
—where, when, by what means [with or without the employment of nuclear weapons], and in what forms and methods actions are taken to inflict losses on the enemy and to foil or repel his attack;
—directions and areas where the main efforts of the *front* are concentrated;
—troop formation for operations and the form of establishing of defensive belts.

In working out the concept of operations the most favorable form of the employment of *front* forces and means to accomplish assigned missions and to achieve the aim of the operation, primarily the method of use of nuclear weapons, are selected. The *front* commander specifies in which phase of defensive combat decisive casualties should be inflicted on the enemy, and accordingly, when the bulk of nuclear rounds allocated to the *front's* defensive operation should be used, i.e., prior to the initiation of an enemy attack, while repelling the attack, or during the conduct of counterattacks against the enemy. In resolving these questions the commander takes the following factors into close consideration: availability and time of receiving nuclear rounds; probable effectiveness of nuclear strikes in different situations of friendly troops and enemy targets (the effectiveness of such strikes would differ in varying situations, such

as prior to the initiation of enemy attack and in the course of enemy attacks); and the possibilities of timely determination of exact coordinates of the targets. When assuming the defense prior to the outbreak of war and also in situations in which the *front* takes up the defense in the course of its offensive operations without the use of nuclear weapons, determining troop grouping, their decisive concentration on the most likely directions of the attack by enemy main forces, and the integrity of the defense are of significant importance.

A *front* counterattack is planned on two or three directions in accordance with the likely directions of attack by enemy main forces. Moreover, the aim of the counterattack is specified, which differs with the composition of the *front's* second-echelon forces and reserves, as well as with the composition of the enemy strike grouping. In one case, the aim of the counterattack will be the destruction of penetrating enemy forces and the restoration of the defense, while in another case it might be the destruction of enemy strike groupings and the restoration of the defense along with the seizure of vital objectives in enemy territory, which may provide favorable conditions for passing over to the attack.

The missions of *front* troops are specified in accordance with the concept of operation. The missions assigned to the troops include the following:

(1) To first-echelon armies:

—combat composition, attachments, defensive areas, and directions or areas of concentration for the main effort;
—where, when, and on which enemy formation(s), heavy losses should be inflicted and the attack(s) repelled;
—the number and yield of nuclear rounds to be employed in the army's area by higher echelons;
—areas of counterpreparatory fire, and if such fire is planned, the forces and means to be tasked for such action;
—directions of counterattacks and lines of troop deployment for counterattacks;
—missions of adjacent units and the method of coordination with them;

—missions of *front* aircraft in the area of the army's defense and the method of interaction with them;
—method and nature of preparing engineer works and fortifications in defensive areas;
—location of command posts;
—the time of readiness for the defense and the fire system.

(2) To second-echelon armies (combined arms reserve):

—areas of concentration or areas to be held and prepared;
—missions, directions of counterattacks, movement routes, and the lines of deployment for counterattacks;
—the numbers of allocated nuclear rounds;
—method of cover against the enemy's air attacks and the method of air support for the troops;
—method of interaction with first-echelon forces and other troops;
—missions concerning the fight against enemy airborne assault landings and instructions on protecting the troops against mass destruction weapons;
—the [location of] command posts.

(3) To [surface-to-surface] rocket troops:

—areas of main and alternate positions and the method and time of constructing the positions and occupying them;
—numbers of rockets to be launched, and the method of their preparation and movement to the launch positions;
—missions, targets to be destroyed, and the method of delivering nuclear strikes;
—measures ensuring the preparation of rocket troops to use nuclear weapons in conditions of conducting combat operations with conventional weapons;
—missions concerning the fight against enemy nuclear-delivery means and missions for destroying enemy strike and breakthrough groupings;
—method of rocket troop maneuver and relocation;
—measures ensuring the security of friendly troops against the impacts of their own nuclear weapons, and also measures for assessing and controlling the impact of the nuclear strikes.

(4) To artillery troops:

—composition, missions, and the areas of deployment during the conduct of counterpreparatory fires during the *front's* counterattack;
—missions to combat enemy nuclear delivery means and troops during their approach to defensive areas and also while repelling enemy attacks and launching counter-attacks;
—allocation of ammunition to missions and to operational formations;
—time of readiness of artillery fire systems.

(5) To the *front* air army:

—missions and targets to be destroyed by nuclear weapons, and the method of delivery of the strikes (low air burst, high air burst, etc.)
—measures on ensuring the preparation for use of nuclear weapons when combat actions are conducted only with conventional weapons;
—missions for combatting enemy nuclear weapons and also for destruction of enemy groups of forces on approaches to the defense, during the conduct of counterpreparatory fires, and while repelling enemy attacks and during counterattacks;
—method of interaction with motorized rifle (or tank) units, surface-to-surface rocket troops, and also with *front* and national PVO Forces in the course of an operation.

(6) To air defense troops:

—in covering troop groupings, where the main efforts of air defense troops should be concentrated at the beginning and during the course of the operation;
—methods of combatting enemy air attacks while covering troops during counterpreparatory fires and during counterattacks;
—method of interaction with fighter aircraft and with operational formations (large units) of national PVO Forces;

—method and time of deployment of air defense units at the beginning of the operation and their maneuver during the operation.

(7) To the mobile antitank reserve and mobile obstacle detachments:

—composition, areas of concentration, directions or areas of operation for the mobile obstacle detachment, and method of maneuver and coordination with first and second-echelon troops.

(8) To combat engineer and chemical reserves:

—their composition and areas of deployment.

After making the decision, the *front* commander usually issues instructions to the staff and to the chiefs of arms and services on planning the operation, on establishing coordination, on Party and political work, on troop control, on the establishment of the defensive force groupings, on their preparations for the accomplishment of assigned missions, on the support of their combat actions, and on the organization and operations of rear service echelons.

The decisions of the *front* commander are marked on the map by the *front* staff along with working out necessary written instructions. Based on the commander's decision, the operations directive is established. Missions are assigned to the troops by issuing related written excerpts from the operations directive to them or by sending them individual operations orders or instructions.

Planning the Operation

Planning the operation is worked out jointly by the *front* staff, chiefs of arms and services, and the staff of the *front* air army. The planning of the operation is conducted on the basis of the *front* commander's decision and his instructions on planning the operation. The nature of planning includes specifying a unified course of action, the best method for its accomplishment, and setting out the most effective use of forces and means for

successfully accomplishing assigned missions and achieving the aim of the operation. The following points are specified in the plan:

—the sequence and form of accomplishing missions to inflict losses on the enemy on approaches leading to the defense, to repel an enemy attack, and to destroy enemy forces that have penetrated into defensive positions;
—force groupings and aviation units, allocation of the efforts of forces and materiel to different missions, and directions of combat actions;
—method of coordination among the troops, all-around support of combat actions, and troop control.

The execution of missions in operations is planned so that *front* troops can accomplish them in conditions of conducting the operation with or without the employment of nuclear weapons. In order to foil a prepared enemy attack, nuclear strikes and the strikes of aircraft using conventional weapons are planned in detail against the likely deployment areas of enemy nuclear-delivery means, airfields and airbases, enemy main force groupings during their advance and their deployment for attack, and also enemy command posts and air defense means. If the operation is prepared in peacetime, then the above-mentioned tasks would constitute the basic content of initial *front* nuclear strikes, and *front* troops should be prepared to follow them by initiating the attack.

If counterpreparatory fires are anticipated and planned in operations without the employment of nuclear weapon, then they are planned on one or two directions to inflict losses upon the enemy in his start positions. The form of firing associated with counterpreparatory fires, artillery and aviation units available to conduct such fires, and the method of taking up firing positions are specified for the artillery.

If the area to be covered by counterpreparatory fires is specified in the limits of the defensive area of one army, its size can be 10 to 15 km both in width and in depth. But if it is specified at the adjoining flanks of two armies, the figure may reach 20-25 km and the density of artillery operating in the area will

be 40-50 pieces per kilometer of *front*. If aviation is also called to participate in counterpreparatory fires, its strikes are planned on areas beyond the range of artillery. The depth of counterpreparatory fires reaches 25-30 km. The duration of counterpreparatory fires can be 25-30 minutes.

The counterattacks of the army's and *front's* second-echelon forces (reserves) are planned on two or three directions. On each direction the following points are specified:

—the aim of the counterattack;
—the missions of motorized rifle and tank troops participating in the counterattack;
—method of movement to, and deployment on, specified lines;
—and the direction and form of their actions during launching the counterattack;
—missions of [surface-to-surface] rocket troops, artillery, aviation and air defense troops;
—missions of first-echelon armies defending in the area of the counterattack;
—the method of coordination;
—measures for supporting the counterattack and method of troop control.

When preparing a defensive operation in the course of military actions without the use of nuclear weapons, particular attention is paid, during the planning of the employment of conventional means, to working out measures to ensure constant readiness of the troops to launch the initial nuclear strike and to pass over to actions employing nuclear weapons. The following points are specified to fight against enemy airborne troops:

—likely landing areas of enemy airborne assault troops, composition of enemy landing troops, and likely character of their combat actions;
—missions of [surface-to-surface] rocket troops and aviation for the destruction of enemy airborne troops in their assembly areas, on the airfield, and during their embarkation in aircraft (helicopters);

—missions of air defense forces and means for the destruction of enemy airborne troops in the air;
—forces and means assigned to destroy enemy airborne troops after their landing, and their missions.

The planning of the operation is completed with the creation of the operations plan. The chiefs of arms and services work out the plans for the combat employment of their subordinate arms and services, while the chief of rear services works out the rear service support plan, which is part of the operations plan. The plan of the *front's* defensive operation is prepared graphically on a 1:500,000 or 1:200,000 scale map, in which the composition of the enemy's force groupings, their likely directions of attack, the formation for operations of friendly troops, the defensive area, nuclear strikes against the enemy, artillery fire plans, systems of obstacles, lines of deployment for counterattacks, groupings of units and large units, airbases, command posts, the main rear service units and installations of the *front* and those of the armies, maneuver routes and supply and evacuation routes are depicted. The graphic part of the plan should be properly marked and clearly understandable. Unnecessary details should be avoided.

The written part of the plan addresses the following points:

—deductions from the estimate of the situation;
—the goal and concept of the operation;
—combat composition of the *front*;
—distribution of support arms and means;
—availability, time of delivery, and allocation of nuclear rounds to various missions and among different operational formations;
—allocation of combat sorties of the *front* air army;
—relative balance of the troops in the entire defensive area of the *front* and on different directions;
—calculation of time for the movement of second-echelon forces and reserves to specified deployment lines to launch counterattacks or to reinforce first-echelon troops;
—availability, time of delivery, and distribution of materiel means;

—time for the readiness of the fire system, engineer works, and fortifications;
—troop control signals.

The plan for the defensive operation can also be prepared in written form, with the map of the *front* commander's decision attached to it.

Formation for Operations of the* Front's *Defense

The formation for operations of the *front's* defense includes the disposition of the following [see figure 5]:

—groupings of forces and means across the *front* and in depth;
—nuclear strikes;
—the system of defensive positions, lines, and belts;
—blocking positions;
—deployment areas for [surface-to-surface] rocket troops and air defense units;
—lines of deployment to launch counterattacks;
—the fire system and aviation strikes using conventional weapons;
—air defense system;
—engineer preparation of the terrain.

The basis of the defensive layout is established by groupings of forces and means and the nuclear strikes. The other elements of the defensive layout, as mentioned above, are decided in accordance with the established groupings of forces and means and the specified method of employing of nuclear weapons.

The groupings of forces and means depends on the following:

—the width of the defensive area and combat composition of the *front*;
—the conditions of taking up the defense;
—character of the terrain, particularly the numbers, size, and width of directions favoring the advance and attack of the enemy;
—the strength of probable enemy strikes and the conditions for conducting maneuvers by friendly forces and means in the course of the defensive operation.

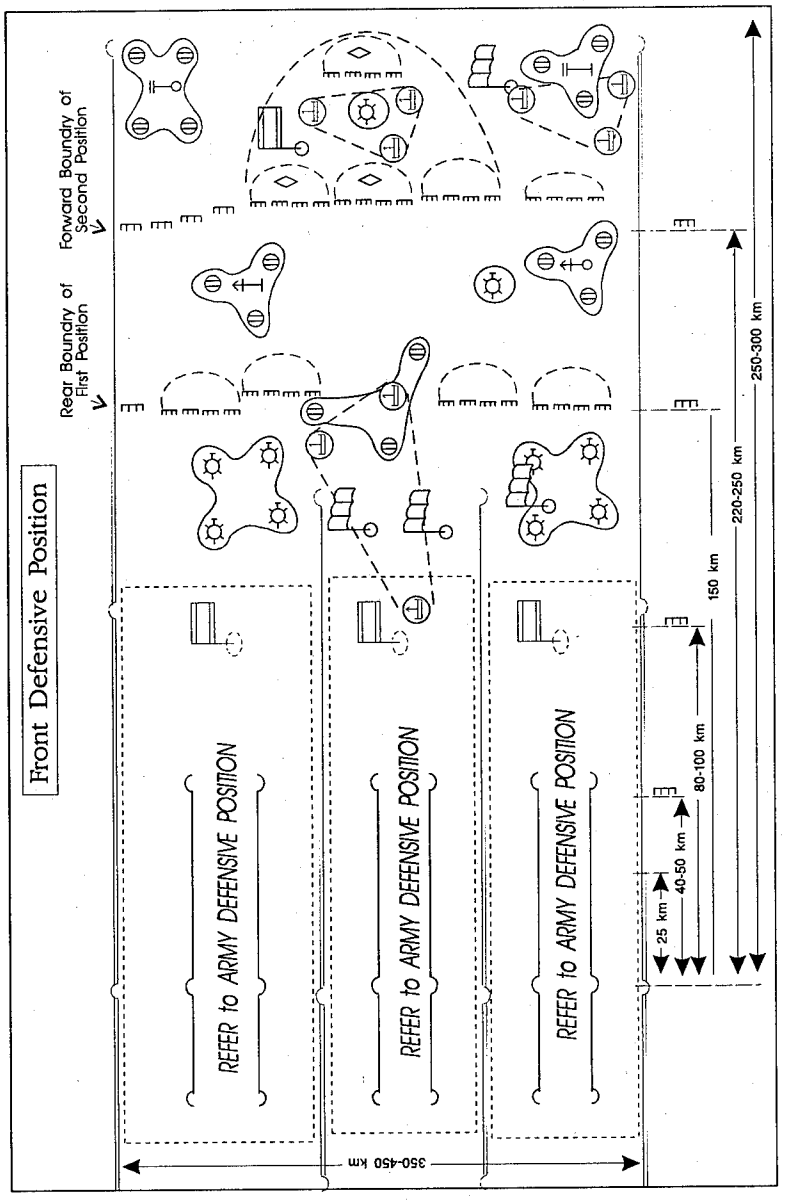
Front Defensive Position
Rear Boundry of First Position
Forward Boundry of Second Position
REFER to ARMY DEFENSIVE POSITION
REFER to ARMY DEFENSIVE POSITION
REFER to ARMY DEFENSIVE POSITION
350-450 km
25 km
40-50 km
80-100 km
150 km
220-250 km
250-300 km

Figure 5

The groupings of forces and means are established in such a way as to ensure:

—exploiting favorable terrain features and quickly establishing engineer construction;
—effectively employing all weapons to inflict losses on enemy ground and air forces;
—ensuring the firmness of defense in key areas;
—intensification of resistance against the enemy on dangerous directions;
—deceiving the enemy about the real grouping of *front* forces;
—making it difficult for the enemy to select proper targets for destruction;
—ensuring the protection of troops against enemy nuclear attacks and against the fire of conventional weapons;
—ensuring continuous interaction and troop control.

Since forces and means will not be sufficient to establish a strong defense on all favorable directions, the main efforts in establishing groupings of forces and means are concentrated on the decisive direction defended by first-echelon troops of the *front* and the armies, while second-echelon forces and reserves are allocated to enhance the efforts from the rear and to launch counterattacks. The first-echelon army defending on the direction of a likely enemy main attack may be assigned an area 100-150 km wide. Terrain offering the enemy difficult access is defended by a limited number of troops. In such areas the forces may defend on wide *fronts*, while leaving gaps between units to be covered by fire and obstacles.

The formation for operations of the *front* may be established in one or two echelons that consist of the following elements:

—first-echelon armies;
—second-echelon armies;
—combined arms reserve;
—grouping of [surface-to-surface] rocket troops;
—aviation grouping;
—air defense grouping;

—engineer and chemical troops directly attached to the *front*;
—various special reserves;
—mobile antitank reserves;
—mobile obstacle detachments.

The *front's* first-echelon forces are designed to repel the enemy attack, to inflict heavy losses on enemy forces, to hold and retain important areas and terrain features, and to provide favorable conditions for the *front's* counterattack. The bulk of the *front's* forces and means are allocated to the first-echelon. The *front's* first-echelon army prepares and holds two to three defensive belts. The first belt is the main defensive belt, and it is defended by first-echelon divisions of the army. The second and third belts are defended by second-echelon (reserve) divisions. The first defensive belt consists of three or more defensive positions, and its overall depth may reach 20 km. The second and third belts each consist of one or two positions. The distance between the second defensive belt and the first defensive belt is 80-100 km in depth from the forward edge of the first defensive belt. The total depth of the *front* first-echelon army's defensive area [the army's three defensive belts] may reach 100-120 km or more. When organizing the defense when not in close contact with the enemy, a security zone 15 km or more in depth is established in advance of the first defensive belt. The security zone is established to delay an enemy attack, to force the enemy into a premature deployment, to divert the enemy attack to unfavorable directions, and to detect enemy force groupings and their intentions. The security zone is usually defended by motorized rifle and tank troops from first-echelon divisions. The security zone can also be established while assuming the defense in the course of offensive operations, when the forward edge is not selected on the line of contact, but is established in depth.

The second-echelon of the *front* is normally assigned to launch the counterattack. In some situations, in the course of the defensive operation, the *front's* second-echelon forces may partially or entirely establish the defense on vital operational lines in depth on the direction of the enemy main attack in order to delay its attack and to inflict heavy losses by defensive action.

The composition of the *front's* second-echelon may include a combined arms army or army corps.

The combined arms reserve consists of various numbers of motorized rifle and tank divisions. It is designated to reinforce troops operating on decisive directions, or to relieve large units that have lost their combat capabilities. The reserve is also assigned to launch counterattacks, to destroy enemy airborne troops, and to accomplish other unexpected missions that may arise in the course of defensive operations. In the absence of second-echelon forces in the *front*, the combined arms reserve is established in great strength. Such a strong reserve, along with the armies' second-echelon forces, constitutes the force groupings required to launch counterattacks.

A *front* second-echelon army establishes its defense at a distance of 150 km or more to the rear of the forward edge. The divisions included in the combined arms reserve deploy in staging areas or hold defensive lines on vital directions while ready to deal with unexpected situations and conduct new missions in the course of the defensive operation.

By employing the *front's* second-echelon forces and combined arms reserve, one or two separate *front* defensive lines are established that are located 60-80 km from the forward edge of the first-echelon army's last [rear] defensive belt. Such a distance provides the proper conditions for a dispersed and concealed deployment of the *front's* second-echelon forces and reserve and gives it the capability to conduct quick maneuvers on each direction in order to launch counterattacks or to accomplish other missions. Moreover, at such a distance, the selection of deployment areas and positions for air defense rockets, airfields for the *front* air army, position areas for air defense rockets, and areas of deployment for combat support troops and for rear service units and installations can be achieved in a most effective way.

The overall depth of the *front* defense, with two to three army defensive belts and one to two *front* defensive belts, may reach 250-300 km. In the area of the *front* (army) defense blocking lines (belts), alternate (reserve) positions and lines and deceptive defensive positions and areas are also established. The

grouping of [surface-to-surface] rocket troops is established in close consideration of the following requirements:

—fully using of its capabilities to deliver massive and group nuclear strikes on the main direction, and fully using of its maneuver capabilities across the entire area of the *front's* responsibility;
—inflicting heavy losses on enemy groups along approaches leading to the defense, in advance of the forward edge, and to the depth of the defensive zone;
—ensuring the strength and firmness of the combat order of rocket troops during enemy nuclear strikes and during the penetration of enemy forces into the defensive zone.

Each [surface-to-surface] rocket brigade is assigned one main position area and one to two alternate (reserve) areas. For an R–300 [Scud] brigade the main position area is selected 60-80 km from the forward edge, while its alternate (reserve) positions are specified 15-30 km apart from its main position area. The rocket troops position areas are constructed by rocket troops themselves. Engineer units of the *front* may be called for this purpose as necessary.

The *front* aviation groupings are established in close consideration of the following requirements: to ensure favorable conditions to accomplish the missions of the air army; to effectively use air attacks against enemy nuclear delivery means and against the main attack groupings; and effectively employing aviation to conduct air reconnaissance and to repel enemy air attacks in coordination with *front* and national PVO Forces, as well as with air defense means of adjacent operational formations. Fighter-bomber and reconnaissance aviation units are deployed at a distance of 100-150 km from the forward edge, while bomber aviation units are based 200-300 km away from the forward edge in depth. Each aviation division is assigned an airfield complex, including four to six operational airfields and two to three reserve airfields.

The *front's* air defense troop groupings are established by surface-to-air units and large units, antiaircraft artillery units and large units, and electronic troops. The grouping of these

forces and means is established in such a way that along with the fighter force of the *front* air army, and in close coordination with national PVO Force large units, as well as air defense forces and means of adjacent formations, they prevent enemy attacks on all directions against the main friendly force groupings and against airfields and vital rear service targets. They should also destroy enemy airborne troops in the air and should not allow flights of enemy aircraft and pilotless devices into the depth of friendly territory. The *front's* air defense units and large units sufficiently cover [surface-to-surface rocket] troops, second-echelon forces, and the *front's* control posts.

The *front* engineer force grouping is established by the following elements:

—engineer troops attached to first-echelon armies and to [surface-to-surface] rocket and air defense rocket troops;
—mobile obstacle detachments;
—engineer troops allocated to carry out tasks in the general interest of the *front*;
—engineer troops allocated to the *front* reserve.

The grouping of *front* chemical troops is established to accomplish chemical support missions for the operation. The chemical protection units are normally deployed in areas selected for special decontamination of the troops.

The grouping of radio-electronic warfare forces and means is established in close consideration of the requirements to jam the control means and guidance systems of enemy weapons on important directions of likely enemy attack, and also to ensure the maneuver and stepping-up of radio-electronic jamming operations in the course of the defensive operation.

The *front's* mobile antitank reserves are established by large antitank units of the Supreme High Command attached to the *front*, to include one to two antitank artillery brigades. They are designated to reinforce the antitank defense of first-echelon armies, to destroy enemy tank groupings that have penetrated into the depth of the defense, and also to support the deployment of counterattack groupings of the *front*. The mobile antitank reserves are normally deployed on two directions by

preparing two to three firing lines on each direction, 12-18 km wide for each antitank artillery brigade. The mobile antitank reserve operates independently or jointly with mobile obstacle detachments.

Mobile obstacle detachments are tasked to mine and construct obstacles on the main directions of enemy attack. Normally two mobile obstacle detachments are established in the *front*, each consisting of one engineer battalion. The reserves of arms and services are dispersed in the *front's* area close to road centers and usually in advance of the *front's* second-echelon large units. They are kept in constant readiness to carry out unexpected tasks.

Nuclear strikes in the *front's* defensive operation are one of the vital elements of the defensive layout. The successful accomplishment of missions by *front* troops in the defensive operation with the use of nuclear weapons depends on proper organization and timely preparation for nuclear strikes. Preparation for nuclear strikes is conducted in accordance with the decision of the *front* commander on employing nuclear weapons in the defensive operation. The nuclear strikes are prepared along with details on different states of readiness in specified conditions of the situation.

These situations include when the defense is organized in circumstances where the enemy has completed grouping his forces and means for the attack (counterattack), or is in the process of completing such a grouping, in order to inflict losses on the enemy on approaches leading to the defense or in front of the forward edge. The targets to be destroyed, numbers and yields of nuclear rounds and their delivery means to each target, types of bursts, and the time of launching nuclear strikes are specified.

When enemy forces are dispersed, deployed in assembly areas a great distance away, or on the move, launching nuclear strikes against them will be less effective. In such cases, the enemy's likely staying areas for attack are determined, and nuclear strikes, including the specified number of rounds to be launched against them once they arrive in such areas, and also the location of some targets, are determined. Questions

concerning the preparation of subsequent nuclear strikes while repelling an enemy attack and in the course of conducting a counterattack are resolved in such a way that these strikes, including the number of allocated rounds, the yield of nuclear rounds, means of their delivery, and also the areas where the enemy will be engaged, are all roughly determined in advance.

To deal with unexpected situations and to resolve unanticipated missions, particularly to destroy enemy nuclear weapons, a necessary number of nuclear rounds of different yields, different ranges and accuracy of fire, and employed by different delivery means, are retained in reserve.

Nuclear weapons are employed in the defensive operation to accomplish the following:

—to destroy enemy nuclear delivery means where they are located;
—to inflict heavy losses on advancing main enemy columns, as well as on concentrating, attacking, or penetrating enemy forces, especially tank force groupings;
—to destroy the enemy while conducting counterattacks;
—to disrupt enemy troop control and the operation of rear services.

The principal targets of nuclear weapons can be the following:

—surface-to-surface rocket troops and artillery in firing positions;
—storage depots of weapons of mass destruction;
—motorized rifle and armored units;
—airfields and aircraft based on them;
—air defense means;
—command posts;
—vital targets of the enemy rear service echelon.

In the *front* defensive operation a limited number of nuclear rounds are allocated. Therefore, only individual or group nuclear strikes are delivered in the course of the operation. Massive nuclear strikes to inflict heavy losses on the enemy can be employed in the phase of the enemy's preparation for attack, or during the conduct of the *front's* counterattack. In the defense,

nuclear weapons are used in the form of surface or air bursts. Surface bursts are usually employed in favorable meteorological conditions and principally to inflict losses on enemy targets deployed in depth, and also against enemy troops during their advance and deployment for attack.

In case of relatively limited availability of nuclear rounds, particular significance is given to their employment on the main directions to resolve the most important tasks. In this case the planning of employment, and the control of nuclear strikes is centralized.

During preparations for defensive operations in peacetime, and when the troops take up the defensive in the course of an offensive operation without the employment of nuclear weapons, the *front* will have a sufficient number of nuclear rounds to foil organized enemy attacks. In this case the *front* initiates the attack quickly following its initial nuclear strike in accordance with arrangements made during the preparation of the operation.

The Fire System

The fire system of conventional weapons includes the following:

—organized fire strikes against the enemy on the approaches to the defense;
—the establishment of multilayered massive fires of all types of weapons to the immediate front of the forward edge, at the flanks and in the rear;
—maneuver by fire on all directions, particularly in dangerous areas.

Aviation launches conventional weapons strikes against the enemy either together with the *front's* firing means or independently. Aircraft generally engage moving and small targets located beyond the range of artillery.

Fire systems and aviation strikes in the defense should ensure the following:

—destruction of enemy nuclear delivery means;

—inflicting losses on the enemy in staging areas, during movement, on deployment lines, or in attack positions;
—neutralization of enemy artillery, air defense means, command posts, and radar stations;
—support of friendly troops operating in the security zone;
—repelling massive attacks of enemy infantry and tanks;
—destruction of enemy forces that have penetrated into the rear of the defensive disposition;
—counterpreparatory fire and support of counterattacks;
—covering flanks, gaps, engineer obstacles, natural barriers, and also the areas hit by enemy nuclear strikes.

The fire system and air strikes are organized in the entire area of the *front's* responsibility, before each defensive belt and line, and within belts and lines. They are organized in more detail particularly on the main directions of enemy attack. The deployment and positioning of the weapons should ensure inflicting losses on the enemy through the use of flanking fire, crossfire, surprise, short-range concentrated fire with maximum density, and also through the use of "pockets of fire." All weapons should be ready for wide maneuver.

The air defense system in modern times is established to provide reliable cover for the main force groupings and the *front's* important targets, particularly rocket troops, aviation, and *front* operational formations and large units operating on important directions. It should also cover the second-echelon forces and the *front's* reserves in their deployment area, as well as during the conduct of army and *front* counterattacks.

The *front* air defense system includes the following:

—reconnaissance of enemy aviation and warning *front* troops about the enemy;
—covering *front* troops and targets with surface-to-air rockets and antiaircraft artillery;
—covering troops with fighter aircraft;
—troop control of air defense forces and coordination within *front* air defense forces and also with air defense means of adjacent *fronts* and with those of national PVO Forces.

Engineer preparation of terrain in the defense includes the following arrangements:

—fortification of defensive belts, as well as of position areas of surface-to-surface and surface-to-air rocket troops and artillery positions;
—preparation of deployment lines for launching counterattacks;
—preparation of deployment areas for command posts, second-echelon troops, combat support units and large units, and the rear services;
—establishment of engineer obstacles in *front* of the forward edge and in the rear of the defense;
—construction and improvement of maneuver and supply routes and evacuation routes.

Engineer preparation of terrain is conducted throughout the entire depth of the defense in order of priority to ensure constant readiness of the troops to repel enemy attacks and to provide protection against all means of destruction. Engineer preparation of terrain begins with the organization of the system of fire and is conducted by all troops, with maximum use of machinery, tools, and prefabricated construction material, and with the full employment of the troops.

Engineer works of first priority for large units occupying defensive belts are:

—digging pits for weapons and trenches for personnel;
—construction of covered installations for observation posts, shelters in command posts, and in medical centers;
—installation of obstacles in *front* of the forward edge, in gaps, and at the flanks;
—preparation of fields of fire for antitank weapons, deployment lines for counterattacks, and movement routes to such lines;
—establishment of water supply points;
—preparing bridges, [POL] pipelines, water pipelines, and other vital targets for destruction.

To accomplish the above-mentioned works, the troops will need five to six hours. Engineer works of second priority:

—foxholes are integrated into the squad's trenches and alternate positions are prepared for weapons and tanks;

—the foxholes are connected with each other by trenches and communications trenches are dug out;
—deployment lines for counterattacks and firing lines of anti-tank weapons are improved, covered trenches and shelters for personnel and shelters for vehicles, supplies, and stores are prepared;
—the density of obstacles in advance of the forward edge, in depth, and at the flanks and gaps is intensified, and the routes of maneuver are improved.

Engineer preparation of *front* and army defensive positions is conducted during preparation for, as well as during the conduct of, defensive combat, by large units included in second-echelon forces and reserves and also by engineer fortification units. In certain situations the local population, with civilian vehicles and those of the national economy, are employed for this task as well.

Engineer obstacles are established along with the fire system, in close consideration of natural obstacles and barriers and also in accordance with actual and planned demolition fires, and flooded areas. The obstacles are established primarily on the main directions of the tank threat. For complete engineer preparation of the *front's* defensive belts, eight to ten days and nights are required.

Organization of Interaction

Interaction in *front* defensive operations is organized on the basis of troop missions and likely directions of enemy attack. Establishment of interaction in support of the accomplishment of missions to inflict losses on the enemy during its advance, and in the course of the deployment for attack, is organized by the *front* commander. He directs and allocates the actions of the [surface-to-surface] rocket troops, aviation, and artillery to targets, including the time and place of delivering coordinated strikes. Particular attention is concentrated on inflicting timely, effective losses on enemy nuclear weapons, his main force groupings, his aviation, and also on his command posts. During the confirmation of the above-mentioned actions, the army

commander specifies measures for protecting troops from friendly nuclear strikes.

Coordination in repelling the enemy attack is organized directly on the most likely directions of attack. On each direction, the time and place of inflicting losses on attacking enemy groupings by nuclear or conventional weapons, the method of holding vital defensive areas and lines by the troops, their reinforcement by army and *front* means, and the method of conducting counterattacks against a penetrating enemy by army means are specified.

If a security zone is established in advance of the forward edge, the *front* commander specifies the method of action of the troops allocated to that zone, as well as the action of supporting troops and their protection and supply.

To destroy large enemy forces that have penetrated into the depth of the defense, the principal attention of coordination is concentrated on the distribution of targets to be destroyed by rocket troops, aviation, and artillery; the method of launching strikes against them in accordance with *front* and army plans; and also on coordinating these strikes with operations of defending forces and those designated to launch the *front's* counterattack.

As for *front* second-echelon forces and reserves, the method of their movement and deployment and the time and form of launching the counterattacks are specified. The defending troops are instructed on areas and lines to be held in order to provide the best conditions for launching the counterattack, and also on the method of troop participation in the *front's* counterattack and consolidation of seized lines. Moreover, measures on covering counterattacking forces against enemy air strikes during their movement, as well as during their deployment and conduct of the counterattack are specified. Support of their actions is provided.

Forces and means are allocated to cover gaps and adjoining flanks of armies with adjacent *fronts*, and the time for readying obstacles and the fire system is specified. The actions of the *front's* units and large units in repelling the enemy's attack and destroying penetrating forces are coordinated. The major topics

of interaction are specified by the *front* commander in the decision for the operation. The method of interaction is described to subordinate commanders and staffs during the assignment of combat missions through additional instructions on interaction. Depending on the time available, practical procedures for organizing interaction are carried out on a map, on terrain models, or directly on the terrain. Matters concerning coordination are reflected in the plan of defense, in plans for the employment of combat arms, and in the plans of various types of support.

Establishment of Troop Control

The establishment of troop control in the *front's* defensive operation includes the following elements:

—preparation of command posts and organization of their operation;
—establishment of a signal communications system;
—maintaining the constant readiness of the staffs to control the subordinate troops.

The following command posts are established in the *front's* defensive operation: main command post, alternate command post, and rear command post. An airborne command post, from which the *front* commander controls the troops during flight to one of the combat operation areas, may also be established. In some situations an auxiliary command post is established as well, in order to control troops operating on a separate direction. During the conduct of the *front's* counterattack, a forward command post is also established.

The main command post is the principal place of troop control. The main command post is deployed at one of the flanks of the enemy's likely main attack direction at a distance of 100-120 km from the forward edge in an area that can provide concealed deployment and quick operation of the command post. Engineer preparation of the command post should ensure reliable protection of personnel, communications means, and transport vehicles against enemy attacks.

An alternate command post is established at the flank or at the rear of the main command post in an area that can permit

reliable troop control in case the main command post is destroyed. It is manned constantly by an operations group detached from the *front's* headquarters, and is provided with documents and information required to assume troop control. Moreover, reliable communications are established from alternate command posts to lower and higher echelons' headquarters, as well as to the command posts of cooperating troops and adjacent forces.

The rear command post is established in an area that can support the troop control of *front* rear service units and installations and that also ensures the maintenance of reliable communications with the *front's* main command post and with the armies' main and rear command posts. The *front's* rear command post should also be constantly prepared to take over as the main command post when the situation requires. The airborne command post is an auxiliary command post. The signal communications system in the defensive operation includes an improved network of various types of signal communications lines and links and the main and auxiliary signal centers that are established so as to ensure continuous communications with the troops and *front* air army units during the conduct of different defensive missions. Signal communications should also provide reliable links with the Armed Forces' General Staff, with adjacent *fronts*, and with other coordinating headquarters.

Organization of Combat Protection and Security of Front *Troops*

The achievement of the goal of the operation depends greatly on the detailed and all-around combat support, protection, and security of the troops. The basic types of support and protection are the following:

—reconnaissance;
—protection of the troops and rear service installations against weapons of mass destruction;
—engineer support;
—chemical support;
—operational *maskirovka*;

—radio-electronic warfare;
—hydrometeorological support;
—topogeodesic support;
—rear service support.

All types of support and protection in the defensive operation are organized on the basis of the *front* commander's decision for the operation, his instructions on different types of support, and in accordance with the instructions of the Armed Forces' General Staff. Support measures for the operation are organized directly under the guidance of the chief of staff. Appropriate plans are worked out for each type of support, and orders are issued to the troops through combat instructions. Here we briefly discuss reconnaissance, protection of the troops against weapons of mass destruction, and operational concealment.

Reconnaissance

Organization of reconnaissance includes the following elements:

—planning and issuing missions to troops carrying out reconnaissance tasks;
—allocation of reconnaissance forces and means to accomplish various missions and the establishment of a reconnaissance troops reserve;
—specification of the method of coordination among various types of reconnaissance and their coordination with reconnaissance forces and means of arms and services;
—organization of communications with reconnaissance units (subunits) and with reconnaissance groups operating in the rear of the enemy lines;
—collection, assessment, and analysis of reconnaissance information, reporting it to the commander, and informing the troops and adjacent units;
—assistance for troops in carrying out reconnaissance tasks and controlling the conduct of these tasks.

In all conditions of initiating the defense, reconnaissance should detect in a timely fashion the groupings of enemy forces

and means, his operational concept for attack, the direction of his main attack, and the time and method of operation. In the course of a combat operation without the employment of nuclear weapons, the important task of reconnaissance is the detection of the enemy's preparation for the use of nuclear weapons and locating enemy targets to be engaged by friendly nuclear strikes. The important requirements for successfully accomplishing reconnaissance missions are the following:

—wise distribution of reconnaissance forces and means;
—concentration of efforts for all types of reconnaissance in execution of the most important tasks;
—effective utilization of reconnaissance forces and means;
—establishment of reliable communications with them.

All measures to be taken in conducting reconnaissance are thoroughly reflected in the reconnaissance plan, which is organized and worked out by the *front's* reconnaissance department, with the participation of the air army's chief of reconnaissance and senior reconnaissance officers of different arms and services in the planning process. When the *front* assumes the defense while in the course of attack, a new reconnaissance plan may not be worked out due to the lack of time. In this case the standing reconnaissance plan will be adjusted and developed in accordance with the decision made for the defensive operation.

Protection Against Mass-Destruction Weapons

Protection of the forces and objectives against mass-destruction weapons in the *front* defensive operation is organized to avoid losses caused by enemy nuclear, chemical, and biological weapons, to decrease their impact to the minimum, and also to maintain the combat capability of the main *front* troop groupings and to ensure successful accomplishment of the defensive operation.

The *front* commander specifies the most important measures for protecting of troops and rear service installations during the process of making the decision for the defense. He also specifies the forces and means to carry out tasks in this connection. Based on the commander's decision, the *front* staff, together

with the chiefs of the various arms and services, organizes the implementation of these measures and tasks and controls their execution.

Measures for protecting troops and rear service installations are reflected in the plan of the defensive operation and in the plans for the combat employment of troop arms, as well as in the plans of combat support and protection. If time permits, a separate plan for protection against weapons of mass destruction can be worked out.

Operational Maskirovka

Operational *maskirovka* is organized and conducted to deceive the enemy as to the concept of the defense and on missions carried out by troops in defense. Establishment of operational *maskirovka* helps to decrease the impact of enemy nuclear strikes and other strikes and to maintain the combat capabilities of friendly forces. The principal measures of operational *maskirovka* in the *front's* defensive operation are the following:

—ensuring concealed movement of troops and the secret occupation of defensive positions;
—establishment of all types of *maskirovka* (i.e., optical, radar, radio-electronic, thermal, magnetic, and acoustic *maskirovka*) to hide the main group of troops and vital targets;
—establishment of deceptive operational formations, or parts of them, as well as a deceptive system of engineer works, such as defensive positions and belts, alternate positions, intermediate positions, lines of deployment, and dummy obstacles;
—establishment of forward defensive positions to conceal the actual forward edge;
—simulation of the deployment of [surface-to-surface] rocket troops, second-echelon forces, reserves, command posts, and deceptive concentration areas;
—establishment of dummy airfields and deceptive radio-electronic situations.

The important measures are alternate redeployment of rocket troops and relocation of second-echelon troops, reserves, command posts, and rocket engineering bases and organization of operation of air defense artillery units from temporary positions located away from the area of deployment of the main troop grouping. In keeping the secrecy of the signal communications system, deployment across the width and depth, and full utilization of wire links, auxiliary signal centers, VHF radio stations, and radio relay are of significant importance.

All operational *maskirovka* measures are thoroughly interconnected and coordinated in terms of objectives, time, and place. The operations department of the *front* staff organizes the plan of operational *maskirovka*. The chiefs of arms and services and the chief of rear services are also called to participate in the planning.

To implement planned measures on operational *maskirovka* motorized rifle and tank divisions, engineer troops, and the units and subunits of other arms are allocated special organic means of radio-electronic warfare, engineer machinery and vehicles, camouflage equipment and materiel, various simulating equipment, and smoke devices. Publications, press, radio, television, and other means of mass media are utilized. Moreover, combat and transport vehicles, as well as railroad transport and [other] mobile transportation means may also be employed. The execution of operational *maskirovka* measures by the troops is controlled by *front* and army headquarters.

III. Conduct of the Defensive Operation with the Use of Conventional Weapons

The *front's* defensive operation can be initiated in various forms, depending on the conditions of assuming the defense. In assuming the defense in the absence of direct contact with the enemy's main forces, the combat action of the troops in the *front's* defensive operation is initiated by engagement of the enemy's advancing or concentrating columns that are preparing to attack. In this case, fire strikes are launched against the enemy on distant approaches to the defense by bomber and

fighter-bomber aviation units. As the enemy approaches closer, aviation strikes are further intensified and supplemented by artillery fires. The principal enemy targets to be destroyed are nuclear delivery means; enemy troops in the main force groupings (particularly antitank troops), airfields, air defense forces, and means; command posts; and vital targets in the enemy's rear service echelon.

In situations when the defense is assumed without having direct contact with the enemy the action of defending troops and aviation begins with strikes against enemy delivery means and troops in staging areas, against enemy artillery positions, and against reserves moving from the rear.

When the *front* assumes the defense while in the attack or while facing enemy counterattack, the defensive action may start directly by repelling enemy ground and air attacks. The difficulties of executing defensive tasks under such conditions will be due to the fact that defensive actions are often conducted before the completion of the establishment of defensive groupings and occupation of defensive positions by first-echelon large units in accordance with the decision made for the defense. In such situations, besides repelling the enemy counterattack, a part of *front* forces will continue the attack to seize advantageous lines for defense.

Under all circumstances, the establishment of the defense by the *front* proceeds with the detection of likely or actual directions of enemy attack by reconnaissance, and with measures to reinforce the defense of those directions. For this purpose the missions of aviation, artillery, and mobile antitank reserves, and the method of maneuver by forces and means are adjusted and confirmed. On dangerous directions the density of antitank weapons and obstacles is increased, engineer preparation of terrain is improved, and additional obstacle areas are established in the rear.

When defense is established in advance, counterpreparatory fire against the enemy during his preparation for attack can be launched. Counterpreparatory fire is the delivery of strong fire strikes by aviation, artillery, mortars, and tanks against the main enemy groupings. Counterpreparatory fire should be opened

with surprise before the commencement of enemy preparatory aviation and artillery fire. Success in counterpreparatory fire is achieved by proper selection of the time of delivery, and the most effective distribution of targets to be destroyed among aviation, artillery, and other means of destruction. The main efforts of the forces and means participating in the conduct of counterpreparatory fires are concentrated on the most important, accurately located targets, primarily on enemy nuclear delivery means, tank force groupings, and command posts.

During commencement of the enemy attack, all weapons of defending forces open fire and intensify it to the maximum capacity. The artillery destroys enemy tanks by barrage fire and disrupts its organization for combat, providing favorable conditions for this subsequent destruction by antitank weapons.

When the enemy penetrates into the main defense belt, measures are taken to hold firmly advantageous positions and to stop the further advance of the enemy into the rear and to the flanks by all types of fire and through launching counterattacks by second-echelon units and large units, in order to destroy penetrating enemy troops and to restore disrupted defensive dispositions.

If the enemy makes a major breakthrough with large forces, launching counterattacks may not be rational. In such situations, the second-echelon forces of divisions hold defensive positions in depth and inflict losses on the enemy by all kinds of weapons and delay further the advance of the enemy into the rear.

When the danger of enemy breakthrough into the defensive zone of first-echelon divisions develops, the army's mobile antitank reserves are moved forward to threatened directions, and forces and means are moved to such areas from secondary axes. First-echelon large units, along with the army's mobile antitank reserves, take measures necessary to stop further advance of the enemy and to inflict heavy casualties on him, which in itself provides favorable conditions for launching the army's counterattack.

While repelling the enemy's attack, aviation carries out action with its maximum power and concentrates the main efforts on the destruction of located enemy nuclear delivery means and on

neutralization of the most dangerous groupings of attacking forces.

The enemy may land airborne assault troops to exploit its attack successfully. Second-echelon forces and reserves are detached to destroy enemy airborne assault troops. A more important role in destroying enemy airborne assault troops is played by air defense troops and aviation. The enemy's airborne assault landing troops should be destroyed quickly in such a way that they may not be allowed to assemble after landing or to seize vital objectives and to reinforce them.

The units which are left behind enemy [lines], or are encircled by the enemy, should avoid the disintegration of their combat order through the effective use of their weapons and by firmly holding their occupied defensive positions (belts), supplemented by counterattacks. They should absorb as great a number of enemy troops by their actions as possible. In support of friendly large units conducting combat actions from an encircled position, air strikes are launched, their actions are supported by artillery, and their urgent supply is carried out by air drop operations. Such troops are given permission to attempt breaking the encirclement only when their actions in the encircled position prove to be useless.

Army counterattacks are launched on the basis of the army commanders' decisions with the permission of the *front* commander, and often by his direct instruction. The counterattacks should be normally supported by *front* forces and means, particularly by the *front* air army. In case of apparent superiority of the enemy, it might be better not to launch army counterattacks. In this case, second-echelon troops of the armies are employed to repel enemy attacks by occupying and holding prepared defensive lines. To accomplish this task, the *front* combined arms and special reserves may be employed as well. During combat actions to hold the main defensive positions and defensive belts, measures are taken to organize the defense in operational depth. For this purpose, by employing *front* and army forces and means, engineer preparation of army and *front* defensive belts and defensive lines are maintained. The system of obstacles are developed on threatened directions, and actions

are taken to prepare some terrain areas, as well as roads, crossings, bridges and other vital targets for destruction if necessary.

If the enemy makes a breakthrough into the second defensive belt and large enemy forces penetrate into that area, the most important tasks of *front's* forces will be to stop the enemy's advance, to inflict maximum losses on the enemy, to isolate the penetrating enemy grouping from his other forces, to prevent the movement of enemy's reserves, and subsequently to break the enemy grouping into pieces by the actions of the *front's* first-echelon forces and reserves, supported by aviation, and to provide favorable conditions for the *front's* counterattack.

The *front's* counterattack is normally launched to destroy enemy main forces on the decisive direction. On other directions, fighting the enemy's attacking forces is conducted by the elements of first-echelon armies. The most favorable conditions for the *front's* counterattack will be available when the *front's* defending forces maintain their combat capabilities and firmly hold the defensive positions at the flanks of the penetrating enemy, when the enemy attack at the front line is delayed by friendly troops, when the enemy is suffering heavy losses, and when he has committed his immediate reserves.

It is better for the *front's* counterattack to be launched against both flanks of the penetrating enemy. This provides the best conditions for getting to the rear of the enemy. But in some conditions, it may not be feasible to launch blows on both flanks of the enemy. In such cases the counterattack will have to be launched against one flank of the enemy. Such a situation may develop when movement of the troops to the other flank of the enemy is difficult because of the terrain, or it may take a long period of time.

To launch the *front's* counterattack, as many forces and means as possible must be called to participate in the counterattack to include: the *front's* second-echelon forces, *front* combined arms and special reserves, air army units and means, and also a part of first-echelon army troops, in the area in which the *front* counterattack is conducted.

The counterattack cannot achieve desirable consequences by the use of insufficient troops. Therefore, as many forces and

means should be allocated to launch the counterattack as are needed to establish decisive superiority over the enemy and change the situation on the direction of the counterattack. It is better to employ a larger number of troops, preferably placing tank units and large units, in the first-echelon of counterattack groupings. The attacks should be launched simultaneously and with surprise against weak areas, particularly against the enemy's open flanks and rear. The missions of the troops in the counterattack are assigned for the entire depth of the operation. Missions can be reconfirmed and adjusted during the course of the operation.

The immediate mission of counterattack forces is the destruction of opposing enemy troops directly located in the counterattack area, getting to the flanks and rear of the enemy's main groupings and providing the conditions for his destruction. The content of subsequent missions includes complete destruction of enemy groupings which have penetrated into the defense, restoration of the defense, and also destruction of the enemy reserves advancing to the area of counterattack. In situations when the enemy has committed all of his reserves by the time friendly forces launch the counterattack, when the enemy has suffered heavy losses, when his troop control has been disrupted, his air forces weakened and air superiority lost, the content of the immediate mission of the counterattacking grouping may include advance to the rear of the enemy's main grouping, its encirclement, and destruction. In this case, the subsequent mission will be seizure of advantageous areas in enemy territory which can support initiation of a general offensive by the *front*. When smaller enemy forces penetrate into the defense, the counterattack grouping is assigned only one mission, which will include: launching a crushing and decisive blow against enemy forces, destroying enemy forces penetrating into the defense, restoring the defense, and establishing favorable conditions for assuming the offensive. The *front's* counterattack should normally begin with a short but strong preparatory fire. The actions of motorized rifle large units participating in the counterattack should be of a decisive nature and should continue without any pause, at a high rate of advance, with maximum power to the entire depth of assigned mission.

To achieve a quick advance and delivery of decisive blows at the flanks and rear of enemy groupings, the attacking troops should quickly exploit the impact of aviation strikes and artillery fires, and also should utilize the gaps and ruptures in the enemy formation for operations. During the counterattack, all measures should be taken to foil or weaken any counteraction taken by the enemy against the counterattack. Moreover, actions should be taken to effectively cover the exposed flanks of counterattacking troops. For this purpose, reconnaissance is further activated and air strikes are launched against the enemy, particularly against his approaching reserves. At the flanks, attacking large units, mobile antitank reserves, and mobile obstacle detachments are deployed, and engineer obstacles are installed.

The counterattack can also be launched under conditions when the enemy's penetrating grouping is not yet stopped, but continues to attack. In such a situation the actions of opposing sides will have the nature of a meeting engagement. During a counterattack, the *front* commander intensifies the efforts of the counterattack grouping through the use of air strikes and artillery fires, through the commitment of second-echelon forces and reserves, and also by assigning large units defending the flanks of the counterattack grouping to initiate the attack. This process is conducted in accordance with developments in the situation.

After the destruction of the enemy grouping which has penetrated into the defense, the previous defensive situation is restored and *front* troops should be ready to repel the enemy's repeated attacks. Therefore, forces are regrouped so that a deep formation for operations is reestablished and reserves are newly constituted.

In circumstances when the enemy intensifies the power of his attacks and continues to exploit his attack into the depth of the defense while *front* troops suffer heavy losses, the counterattack of the *front's* second-echelon troops and reserves may not seem advisable. In this case it will be better for the *front's* available reserves to be employed to inflict losses on the enemy from defensive positions. The *front's* counterattack will be launched later, after it is reinforced by reserves of the Supreme High Command.

The *front* defensive operation ends when *front* troops succeed in repelling the attack of the enemy's main forces, destroy enemy troops which have penetrated into the defense, and hold occupied defensive positions. It must be noted that the enemy can initiate the employment of nuclear weapons at any time. Therefore, taking continuous measures which may ensure constant readiness of *front* troops to assume operations with the employment of nuclear weapons, primarily the readiness of rocket troops and aviation to launch the initial nuclear strike, is of significant importance. To serve this purpose, rocket units on-call for launching the initial nuclear strike should be located in their deployment areas along with rockets and launch platforms. Their maneuver to alternate positions is conducted in such a way that at the likely time of initiation of the employment of nuclear weapons, all or the major part of launch platforms are ready to launch nuclear strikes. As the threat level for the employment of nuclear weapons by the enemy develops, rocket troops are brought to a higher level of readiness in a timely manner.

In situations when the threat of the enemy's use of nuclear weapons develops, aviation continues to locate and destroy enemy nuclear means by its conventional weapons. In such situations, a part of bomber and fighter-bomber aviation units, on the basis of the *front* commander's decision, are placed in an on-call status at airfields while they are armed with nuclear bombs. The *front's* troops should be ready constantly to take actions for protection against the enemy's mass-destructive weapons.

In the course of the defensive operation, the plan for the initial nuclear strike should be reconfirmed from time to time, so that minimum time is spent while *front* troops undertake combat actions with the use of nuclear weapons. For this purpose, it is necessary to constantly follow enemy targets to be destroyed, particularly the enemy's nuclear weapons and force groupings. Moreover, the missions of rocket troops and aviation in the initial nuclear strike are confirmed and necessary changes are made in the initial nuclear strike plan.

IV. Conduct of Defensive Operations with the Use of Nuclear Weapons

The action of *front* forces in the defensive operation with the employment of nuclear weapons is directed toward foiling the enemy's organized attack, or weakening enemy force groupings to the maximum. In such situations, as many losses as possible are inflicted on the enemy's nuclear delivery means and on the main grouping of the enemy forces through the use of nuclear weapons and conventional means.

When the enemy initiates the offensive, his attacks are repelled on the forward edge by nuclear and conventional weapons, and if the enemy penetrates into the defense, his attacks are repelled by nuclear strikes and by fires of conventional weapons, as well as by counterattacks conducted by second-echelon forces and reserves.

When the *front* assumes the defense during the course of an attack, the defensive operation may begin directly by repelling enemy attacks, and by fortification of seized objectives and areas. Meanwhile, defensive force groupings and fire systems are established in accordance with the commander's decision; nuclear strikes are prepared and launched; defensive positions and belts are prepared; antitank obstacles, mines, and barriers are established on the directions of enemy attack; and measures are taken to eliminate the consequences of enemy nuclear strikes.

A most difficult and complicated situation may be created when the enemy launches surprise nuclear strikes against *front* forces. In this case, the primary task will be to restore the combat capability of defending troops and defensive belts and to launch nuclear strikes against the enemy by all operational-tactical nuclear rocket launch platforms and by the air army units. Meanwhile, other actions are taken to repel the enemy's ground and air attacks by all available weapons and means.

To prevent the advance of the enemy's attack groupings and to hold favorable terrain, lines, and areas, motorized rifle and tank large units which have maintained their combat capabilities are quickly moved to vital directions. In certain situations, during the movement of large units to their specified areas, meeting

engagements may occur with enemy attack units trying to exploit the consequences of nuclear strikes and to make it difficult for friendly forces to take up an organized defense on advantageous lines. Under such circumstances, heavy losses are inflicted through repeated use of nuclear and conventional weapons while *front* motorized rifle and tank troops launch quick and powerful blows against the attacking enemy in order to get into specified areas and lines for defense.

Depending on the successful location of strong and dangerous enemy groupings, additional nuclear strikes by *front* and army means are launched against them. The enemy's nuclear delivery means, tank troop groupings, and his vital command posts are destroyed as the first priority. In case of availability of nuclear weapons, nuclear strikes are also delivered on the enemy's approaching reserves, as well as on airfields, crossings, on the enemy's communications routes, and on other targets.

The enemy may attempt quickly to break through the resistance of the *front's* first-echelon forces and to penetrate through unoccupied areas into the operational rear. To avoid such enemy action, a part of army or even *front* reserves should be employed to establish quickly and secretly defensive positions on advantageous lines along directions threatened by the enemy. For this purpose, first the mobile antitank reserves and mobile obstacle detachments are moved, and engineer obstacles are installed on threatened directions.

The main efforts of *front* forces are concentrated on the quick and decisive destruction of attacking enemy troops in the defensive belts of first-echelon divisions. This is ensured by the use of nuclear strikes and fire of conventional weapons, as well as through firmly holding defensive lines on the directions of enemy attacks, and also by the conduct of surprise counterattacks.

When the operation is conducted with the employment of nuclear weapons, the situation will normally change quickly on the ground and in the air. On one direction they might not only succeed in penetrating into the defensive belt of first-echelon divisions, but the enemy might make a breakthrough to the entire operational depth, while on another direction the enemy

may only succeed in penetrating the defense of the first-echelon troops. Still, on some individual directions, the enemy's attack might be stopped directly in *front* of the forward edge. Generally, the troops will be engaged in a series of scattered defensive combat actions. Under such circumstances, *front* and army commanders are required to show resourcefulness and exceptional artfulness in effectively maintaining troop control, and in constantly coordinating with the operations of all combat arms for the joint accomplishment of the combat mission.

The defending troops should limit and contain enemy maneuver through the firm defense of vital lines and through the use of engineer obstacles to force the enemy to attack on directions which are advantageous for defending troops. Subsequently, they should launch powerful nuclear strikes and use conventional weapons to inflict decisive losses on the enemy. When the enemy succeeds in making a breakthrough on a number of directions, the threat of penetration into the operational rear arises. The main efforts of *front* means, particularly those of nuclear weapons, should be concentrated against the enemy's main grouping, and not on other areas where the enemy is attacking with relatively fewer troops. Fighting with the enemy can be conducted by forces and means of the *front's* first-echelon armies. Only after the destruction of the enemy's main grouping can *front* means be shifted to other directions.

In the course of defensive combat, the commanders and staffs of all echelons constantly should focus their attention on the protection of troops from the enemy's nuclear and chemical weapons, and on eliminating the consequences of such weapons. First priority measures are for the restoration of the combat effectiveness of troops, of troop control, and of interrupted coordination systems on the direction of the enemy's main attack. To restore the combat effectiveness of the first-echelon armies operating on important directions, *front* reserves and large units from the directions not seriously threatened are moved to the affected area and employed for that purpose.

In an operation with the employment of nuclear weapons the *front's* counterstrike is better launched against both flanks of the enemy grouping which has penetrated into the defense. In such

situations the counterstrike can be launched from the *front* (as a *front* strike) to break enemy groupings into pieces, subsequently destroying them individually.

Such a counterstrike can be used when there is a sufficient number of nuclear weapons in the *front*, and when the approach of *front's* second-echelon forces and reserves to the flanks of the enemy's grouping is difficult due to terrain conditions or time factors. In some cases the counterstrike can be launched by part of the troops from the flank, while another part counterattacks from the front.

In conducting the *front's* counterstrike rocket troops, the air army, second-echelon troops, and *front* reserves, as well as parts of the first-echelon armies, are called to participate. In the process of establishing the grouping of forces for the counterstrike it must be considered that the first-echelon of such a grouping must be strong and that as many tank units as possible should be included in the first-echelon to exploit quickly the result of nuclear strikes.

The principal form of troop action during the counterstrike is the deployment of large units and units from the line of march, and initiation of the strike (attack) from the move. It must be noted that this form of action requires that certain measures be taken in advance such as extension and/or establishment of movement routes and deployment lines; covering of the deployment of counterstrike groupings against enemy air strikes and tank attacks; and allocating necessary forces with the means to inflict losses on the enemy in the sectors of counterstrike.

The success of a counterstrike is broadly determined by the number and skillful employment of nuclear rounds. In the course of the defensive operation nuclear rounds must be used sparingly so that the *front* achieves the capability to inflict decisive losses on the enemy just before the initiation of the counterstrike. The counterstrike should be initiated by launching massive nuclear strikes on enemy forces which have penetrated into the defense and primarily on the enemy's nuclear means, tank troops, command posts, and the enemy's immediate reserves. The counterstrike also is initiated by artillery preparatory fire.

During the conduct of the counterstrike, airborne assault units may be landed by helicopters to seize and destroy nuclear delivery means, command posts, communication centers, and to seize key areas on the routes of movement of the enemy reserves.

The expansion (reinforcement) of efforts during the counterblow are primarily effected by repeated nuclear and conventional weapons strikes, commitment of second-echelon forces and reserves of the counterattack groupings and the employment of *front* reserves as well as by initiation of attack by forces defending the flanks of counterattacking groupings.

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CHAPTER FOUR

Combat Employment of Artillery in Front *Offensive Operations*

I. Role, Composition, Missions, and Principles of Artillery's Combat Employment in Front *Offensive Operations*

Contemporary artillery troops have the following capabilities:

—enormous firepower;
—longer range;
—accuracy of fire;
—high maneuverability;
—capability to launch massive, concentrated fires quickly to great depths;
—capability to destroy various targets with a high rate of fire resulting in a high density of fire;
—quick initiation of fire on targets;
—high maneuverability provides for concentration of the bulk of the artillery on decisive directions quickly and discretely.

The role and significance of artillery will change according to characteristics of combat actions and conditions of the

employment of nuclear rocket weapons systems. In a nuclear war the artillery, within its range and capabilities, supplements nuclear strikes in the following areas:

—where nuclear weapons are not planned to be used;
—where limited use of nuclear weapons is planned;
—areas in the immediate vicinity of the line of contact with the enemy.

Therefore, even in nuclear war artillery is one of the direct support means of the attacking troops.

Under conditions when nuclear weapons are not used, the significance of artillery is greatly increased. In this case artillery constitutes the principal means of firepower of the Ground Forces.

Composition

The composition of the *front's* artillery is determined by the following:

—composition of the artillery subordinate to the *front*;
—artillery organic to the *front's* formations and large units;
—availability of the Supreme High Command artillery elements to be attached to the *front*.

The quantity of Supreme High Command artillery attached to the *front* is determined by the General Staff during peacetime on the basis of the following:

—missions to be assigned to the *front* during the operation;
—composition and characteristics of likely actions of opposing enemy groupings;
—nature of employment of various means of Destruction.

The *front* must be reinforced by artillery to ensure the successful actions of the troops during the attack without using nuclear weapons. This is the case in which artillery is charged with the principal missions while the forces are penetrating the enemy forward defense line or other fortified defensive lines in his operational depth, i.e., the period during which artillery is

required to accomplish a large number of tasks to inflict losses on enemy targets within its effective range.

A contemporary *front* with a composition of three to four combined arms armies, one to two tank armies, and five to seven reserve divisions reinforced by three artillery divisions and two antitank artillery brigades may be equipped in the following manner:

—5,000 guns, mortars, self-propelled guns, and multiple rocket launchers;
—700 antitank guns;
—about 2,000 antitank guided missile systems.

Organization of Artillery Large Units, Units, and Subunits

The organization of artillery large units and units is as follows:

—Supreme High Command Artillery Division: A total of 246 guns and mortars are included in each division.
—Antitank Artillery Brigade of the Supreme High Command: Includes four battalions each composed of four batteries, three equipped with 100 mm guns and one equipped with antitank guided missiles (nine in the battery). Total weapons in the brigade are as follows:

  —100 mm guns - 72;
  —ATGM - 36.

—Army's Artillery Brigade: Includes four artillery battalions with two battalions composed of 130 mm guns (36 guns in two battalions) and two battalions of 152 mm howitzers (36 howitzers in two battalions). The total number of artillery pieces in the brigade is 72.
—Army's Antitank Artillery Regiment: Includes three battalions, each with two batteries of 100 mm guns (12 guns) and one battery of antitank guided missiles (nine in a battery). The number of weapons in the regiment totals 63 as follows:

—100 mm guns - 36;
—ATGM - 27.

—Artillery of Motorized Rifle Division:
—division's artillery regiment;

—two battalions of 122 mm howitzers each with eighteen howitzers, a total of 36 howitzers in two battalions;
—one battalion of 152 mm howitzers with 18 howitzers, a total of 54 in the regiment.

—division's separate multiple rocket launcher battalion which is composed of three batteries, each battery having six BM-21 multiple rocket launchers, for a total of 18 in the battalion.

—Division's Separate Antitank Battalion: Includes three batteries each composed of six 100 mm guns, a total of 18 guns in the battalion.
—Motorized Rifle Regiment's Artillery:

—one battalion of 122 mm howitzers of 18 howitzers;
—one antitank guided missile battery of nine ATGMs.

—Motorized Rifle Battalion's Artillery: Includes one battery of six 120 mm mortars and one antitank platoon, consisting of four ATGM weapons and two RPG-9 grenade launchers.

[Note: The composition of artillery as discussed above and the number of artillery pieces in artillery units and large units reflects the notes taken in the Academy Voroshilov in 1975. More recently the composition and organization of artillery units and large units has expanded with the numbers of their organic guns and mortars increased. For example the current artillery division of the Supreme High Command reserve is said to be composed of more than 500 guns and mortars.]

Missions of Artillery in Front *Offensive Operations*

Missions of artillery in *front* offensive operations are as follows:

—destroy and suppress enemy nuclear delivery means;
—repulse enemy aggression and destroy his groupings of forces which have penetrated friendly territory;
—support deployment of first-echelon large units;
—organize support of the passage of *front* forces through enemy covering forces;
—destroy the enemy in meeting engagements;
—support breakthroughs of enemy defensive lines;
—support attacking forces during operations in the depth of the enemy defenses with assault supporting fire and accompanying fire;
—support the *front* when crossing water obstacles;
—participate in repulsing enemy counterstrikes (counterattacks);
—support commitment of the second-echelons of armies and the *front*;
—assist in destroying encircled enemy groupings;
—support consolidation of seized lines and areas;
—cover gaps, exposed flanks, and boundaries.

Main Principles of Employment of Artillery

The main principles of the employment of artillery are:

—massive employment of artillery on important directions of the *front's* offensive;
—close interaction with motorized rifle, tank troops, and the air force;
—support of attacking troops with continuous fire;
—firm and continuous control of fire and maneuver.

The role and importance of artillery is so great that it is called "the God of War."

Experiences from the Great Patriotic War indicate that achieving fire superiority over the enemy on important directions is a required condition for the success of combat in operations without nuclear weapons. This may be achieved only through superiority in numbers of weapons systems, primarily artillery and air force. Fire superiority enables the destruction

and suppression of enemy weapons which could attack friendly motorized rifle and tank troops. The more successful the fire support, the fewer the losses sustained by friendly troops. The enemy possesses an increasing number of modern artillery system in his forces, to include nuclear artillery. The destruction of enemy nuclear weapons is a very important task of the artillery. The enemy's artillery is mostly self-propelled and it has high maneuverability, which enables the artillery to relocate frequently. Increased numbers of artillery pieces and ammunition are needed to fight such artillery.

Contemporary defense makes use of large numbers of the following:

—tanks;
—self-propelled guns;
—armored fighting vehicles (BMP type vehicles);
—antitank guided missiles with high maneuverability.

Moreover, engineer work in the defense is highly developed. Using modern equipment, the enemy may quickly fortify his position and effectively protect his personnel, weapons, and equipment. This further necessitates a larger number of artillery pieces and ammunition to fight the enemy. The required fire superiority must be established on the direction of the main attack so that enemy defenses are effectively penetrated and attacking troops may quickly advance into the depth of enemy defenses. Systematic resupply of artillery ammunition to support the progress of the attack is one of the requirements of the offensive operation.

II. Organization of Combat Employment of Artillery in Front *Offensive Operations*

The organization of the combat employment of artillery in *front* offensive operations is the sum of a number of measures conducted by the *front's* chief of artillery and rocket troops and his staff which include the following:

—make decisions on employing artillery and rocket troops;
—plan combat employment of artillery and rocket troops;

—group, distribute, and allocate artillery for accomplishing assigned missions;
—assign (convey) missions to rocket troops and artillery;
—organize interaction (coordination);
—prepare assembly areas for the attack and positions for the artillery and rocket troops to cover the deployment of the main groupings of forces;
—collect and stockpile supplies;
—organize political training of rocket and artillery troops;
—organize all combat support;
—organize troop control, preparation of command posts and communications;
—prepare troops for combat action;
—maintain high combat-readiness of troops for accomplishing assigned missions.

Planning the combat employment of the artillery includes the following measures:

—determine the needs of first-echelon armies for attached artillery (for artillery reinforcement);
—distribute the Supreme High Command's artillery to *front* organic formations;
—organize movements of artillery to cover deployment of main groupings of *front* forces, to repel likely enemy aggression, and to support initiation of the offensive by friendly forces;
—organize actions of the artillery during the conduct of the following *front* missions:

—during conduct of the artillery preparatory fire phase, the assault support fire phase, the accompanying fire phase, and when covering boundaries, flanks, and gaps with fire;
—while repulsing enemy counterstrikes (counterattacks);
—during assault crossings over water obstacles;
—while committing second-echelon troops into combat;
—while conducting meeting engagements;
—while conducting other important *front* missions;

—determine the composition of *front* antitank reserves and specify their likely missions and the method of movement of *front* antitank reserves during offensive operations;
—organize the *front's* supply formations with artillery equipment and ammunition.

Determining Requirements for Artillery

The *front's* requirements for artillery are determined by the needs of first-echelon armies and the amount of artillery required for establishing *front* antitank reserves.

The requirements for artillery are greater while breaking through the enemy's prepared defensive lines, particularly his forward defensive line where more enemy weapons are concentrated and the defensive positions are better fortified by engineer work. In such cases artillery will be required to accomplish a large number of missions to suppress simultaneously all targets within its effective range. In order to determine the army's need for artillery the number of targets in the following areas are calculated:

—on enemy forward defensive lines;
—in penetration areas.

These targets are to be engaged simultaneously during the artillery preparatory fire phase. The number of targets to be hit by the air force is deducted from the sum. To destroy the remaining targets the necessary number of artillery pieces are determined on the basis of the established norms for destroying (suppressing) typical targets. From the amount of required artillery, as calculated above, the army's organic artillery is deducted. The balance represents the army's additional requirement for artillery (artillery reinforcement). The sum of first-echelon armies' requirements for artillery constitutes the *front's* need for artillery.

The second-echelon armies receive artillery reinforcement (attached artillery) when they are committed into combat. At that time they are given artillery reinforcements by diverting (resubordinating) Supreme High Command's artillery units and

large units attached to first-echelon armies. Therefore, requirements of second-echelon armies for artillery do not count while assessing *front* requirements for artillery.

When necessary information about the targets is not available, and during peacetime planning, the number of artillery pieces required is calculated by the required concentration of artillery for a penetration sector of 20-25 km frontage. In this calculation 90-100 guns per kilometer of front (against U.S. forces) is taken as the norm.

For artillery fire in penetration areas not only the artillery of the division conducting the penetration is assigned, but also the army artillery, and under favorable conditions the artillery of the second-echelon divisions of the army.

The *front's* second-echelon army's artillery is unavailable to participate in artillery preparatory fire since it is located with its parent army 200-300 km from the frontline. Assigning artillery of other first-echelon divisions to penetration areas is not practiced so that those divisions are not stripped of their artillery. Moreover, maneuver of the artillery parallel to the front is difficult. In some conditions only multiple rocket launchers of the divisions adjacent to penetration areas may be used since they have high maneuverability.

To support the penetration of the army in a zone composed of the adjoining penetration areas of two adjacent divisions on a seven to eight km frontage, seven-hundred to eight-hundred guns and mortars are required. If three armies operate in the *front* first-echelon, a total of 2,100-2,400 guns and mortars are required to support penetration at the *front* level.

The following organic army artillery may be called to operate in penetration areas:

—artillery of two motorized divisions: 126 + 126 = 252;
—army's artillery brigade = 72;
—artillery regiment and multiple rocket launchers battalion of army second-echelon division = 72;
—total = 396.

Therefore, the army must be reinforced by 300-400 guns and mortars which amounts to nearly 1.5 artillery divisions (if one

artillery division contains 246 guns and mortars). Thus *front* requirements for artillery depend on artillery needs of *front* first-echelon armies.

The required number of artillery may be decreased in the following ways:

—extending the duration of the preparatory fire phase;
—assigning aircraft and tanks;
—reducing the penetration areas.

The *front* must have a sufficient number of artillery in its composition to insure successful accomplishment of the mission.

In order to establish *front* first-echelon armies' antitank reserves on tank threatened directions, two to three antitank brigades of the reserve of the Supreme High Command are needed. One to two of these brigades constitutes the *front's* antitank reserve. This *front* antitank reserve may cover an area of 20 to 25 km wide, on tank threatened directions, in cooperation with first-echelon large units and may repel the attack of one to two enemy armored divisions or reestablished exhausted antitank reserves for one to two armies.

Distribution of Artillery and Establishment of Artillery Groupings

Artillery is distributed and organized in groupings in accordance with concepts and conditions of *front* offensive operations.

At the *front* level only an antitank reserve is established. *Front* antitank reserves may include tank and engineer subunits in addition to one to two antitank brigades.

During operations on tank threatened directions, the army must be given two to three antitank battalions and an artillery division.

Long-range artillery is usually attached to tank armies (which lack organic artillery) in order to attack enemy nuclear delivery systems and artillery. When the army has organic army artillery, multiple rocket launchers are attached.

Artillery groups of armies and divisions are composed of organic and attached artillery tailored for assigned missions.

Artillery is attached to help create self-sufficient divisions and regiments to accomplish assigned missions. The division attacking on the main axes must be given four to five artillery battalions. Other divisions are given one to three artillery battalions.

In order for army commanders to be able to influence the situation (particularly while conducting penetration on adjoining flanks of first-echelon divisions), an army artillery group composed of eight to ten artillery battalions, including four to five long-range artillery battalions is established. The army assists its divisions with the army artillery group, particularly those divisions which attack on main axes.

Principal Missions of the Army Artillery Group (AAG)

The principal missions of the army artillery group are as follows:

—destroy enemy nuclear delivery means;
—destroy and suppress enemy artillery;
—reinforce first-echelon division's fire, particularly divisions attacking on the main axis;
—destroy and suppress enemy immediate reserves, particularly on directions of penetration and main attacks;
—fire assistance (support) of large units operating on directions of main attacks;
—disrupt enemy command and control.

When divisions operate on a wide area, the concentration of army artillery groups (AAG) in one area in one group does not seem logical. Therefore, in such cases artillery units of the army artillery group are attached to divisions operating in areas where the AAG or divisions newly committed into combat are located.

The AAG may be divided into several subgroups. The number of subgroups is determined by the number of divisions operating in the first-echelon on directions of main attacks.

The greater capability of multiple rocket launcher artillery, and its availability as an organic element of artillery divisions of the reserve of the Supreme High Command (which are attached

to the *front*) provide for and necessitate establishment of the army rocket [multiple rocket launcher] artillery group (AGRA) for centralized employment on the direction of main attacks and to conduct rapid maneuver of artillery to required directions in order to carry out missions inflicting losses on main enemy groupings.

Division Artillery Group (DAG)

The division artillery group is composed of four to six artillery battalions consisting of the following:

—guns;
—howitzers;
—multiple rocket launchers.

Division artillery group's missions are as follows:

—fight enemy nuclear delivery means;
—destroy and suppress enemy immediate reserves;
—destroy and suppress enemy artillery;
—reinforce fire of regiment's artillery groups.

Some of the artillery battalions of the division artillery group are assigned to support first-echelon regiments.

In second-echelon divisions and regiments artillery groups are established after their commitment into combat.

Regiment Artillery Group (RAG)

The regiment artillery group is composed of three to four artillery battalions. It is assigned to conduct missions directly in the interest of its related regiment, particularly to fight against enemy mortars. It may also be called, as needed, to participate in destroying the artillery.

Part of the artillery battalions of the regiment artillery group is assigned to support first-echelon battalions. During the attack and after seizing defensive positions of enemy first-echelon battalions, these artillery battalions may be attached to motorized rifle and tank battalions.

III. Planning Actions of Rocket and Artillery Troops in Front *Offensive Operations*

The chief of rocket and artillery troops makes plans for *front* rocket and artillery troops after clarifying missions and decisions from the *front* commander on employing rocket and artillery troops and instructions from the staff of the higher echelon on employing rocket and artillery troops. He then conducts a thorough and all-around assessment of the situation and makes decisions on combat employment of rocket and artillery troops.

The details of planning the combat employment of rocket and artillery troops are shown in the plans for combat employment of *front* rocket and artillery troops. The elements are a principal part of the *front* operational plans and the principal document of the rocket and artillery staff. The plan is prepared on a 1:500,000 or 1:200,000 scale map along with written instructions.

Graphic Part of the Plan

The graphic part of the plan illustrates the following points:

—enemy situations, his important groupings, and targets of rocket troops;
—situations and missions of *front* and armies and boundaries between armies;
—missions of rocket troops in initial and subsequent nuclear strikes to include specific targets, yields of nuclear rounds, types of bursts, the rocket subunits and units launching strikes on specific targets, and the time of launching the strike;
—employment of rocket troops against enemy counternuclear weapons systems;
—directions of movement, position areas (deployment and assembly areas) of rocket troops, rocket technical units and large units, and artillery and their relocation during the operation;
—groupings of armies' and division's artillery;

—penetration areas and density of artillery for the penetration;
—areas of location and directions of action of antitank reserves of armies and divisions;
—assembly areas and planned deployments of *front* antitank reserves;
—maneuver of rocket and artillery troops during operations;
—areas of radar coverage and positions of air defense artillery;
—other formation elements.

Annexes to the plan include the annex of the initial nuclear strike and the written instructions. The written instructions contain the following:

—specific numbers of nuclear and chemical rockets allocated for the operation and their distribution to the initial nuclear strike, *front* missions, and armies missions;
—availability and distribution of conventional rockets in terms of *front* and armies missions;
—combat composition of *front* rocket and artillery troops, distribution of artillery of the Supreme High Command (attached to the *front*), and *front* artillery among armies and their regroupment during the operation;
—distribution of artillery ammunition in terms of *front* and armies missions;
—composition of antitank reserves.

In addition to these, the following points are reflected in other work documents:

—method, time of preparation, and delivery of rockets to troops;
—calculations of the time for bringing artillery and rocket troops to a state of full combat-readiness;
—expenditure of conventional rounds;
—measures for protecting troops against weapons of mass destruction.

The plan for employing rocket and artillery troops is signed by the *front* chief of artillery and his chief of staff. It is approved by the *front* commander.

Organization of Combat Supporting Measures of the Artillery

Well organized combat support measures constitute one of the main factors in achieving success in assigned missions. Combat support measures of artillery are the following:

—artillery reconnaissance;
—preparing artillery positions, shelters for personnel, covered areas for vehicles and equipment, observation posts and facilities, and shelters for ammunition;
—concealing weapons, firing positions, and equipment;
—conducting air defense against enemy air strikes;
—protecting troops against weapons of mass destruction;
—supply ammunition and artillery equipment;
—providing topogeodetic, topographic, and hydrometeorological support;
—conducting radio-electronic combat.

Combat-Readiness

There are three levels of peacetime combat-readiness in rocket and artillery troops.

1. Constant Combat-Readiness: Units and subunits are kept as close to full combat strength as possible. Units conduct their daily training and are capable of conducting assigned missions. Weapons, ammunition, and other equipment are on hand as prescribed by norms and are ready for combat employment.
2. Higher State of Combat-Readiness: Rocket and artillery units may be brought to the state of full combat-readiness in the shortest period of time. All units and subunits are brought to full strength and train in full combat-readiness. Officers and men are called to duty from leave. Equipment and ammunition are loaded on vehicles. Units and subunits are

ready to move out from the garrisons. Operations groups with signal equipment are sent to command posts.

3. Full Combat-Readiness: Upon receipt of alert signal, units act according to a set plan. Units and subunits move out of their permanent garrisons to assembly areas or to temporary areas and occupy fire positions. Preparations are made by units and subunits so they are ready to conduct combat missions. Simultaneously, units and subunits are brought up to full combat strength by mobilizing reserves.

IV. Combat Employment of Artillery During the Penetration of Enemy Prepared Defenses

One of the important and difficult phases of *front* offensive operations is penetration (breakthrough) of enemy prepared defenses. The enemy's prepared defense is penetrated either from the move (*S Khodu* - line of march) or from a position of direct contact with the enemy following artillery preparatory fire. Missions of artillery during preparatory fire are the following:

—destroy enemy nuclear delivery means;
—inflict sufficient losses on enemy artillery, mortars, antitank weapons, and air defense batteries;
—suppress enemy personnel in their defensive strong points;
—destroy enemy troop control systems.

All of these tasks are conducted by artillery preparatory fire. Artillery fire is conducted in the penetration area and for one kilometer on each flank of the penetration to destroy enemy antitank weapons on the flanks of the penetration area as well.

The duration of preparatory fire depends on the desired degree of destruction. On average, preparatory fire lasts for 30 to 40 minutes. The same amount of time is required to move a regiment from battalion march columns into an attack line during the attack from the line of march.

During conduct of artillery preparatory fire the following may be assigned to participate:

—army artillery group;

—artillery groups of divisions and regiments conducting the penetration;
—artillery of second-echelon divisions of the army;
—multiple rocket launchers of the divisions adjacent to the penetration area.

The scheduling of artillery preparatory fire includes two-three heavy fire strikes each lasting 10-15 minutes with a density of 90-120 guns and mortars per kilometer of width in the penetration area.

Artillery Assault Support Fire

Artillery assault fire is the creation of a moving fire barrage behind which tanks and infantry advance during the attack and inflicts losses on the following:

—enemy artillery;
—other enemy weapons;
—enemy air defense artillery;
—enemy personnel.

Artillery assault support fire continues until the attacking units reach the depth of enemy first-echelon battalion positions (depth of three kilometers). Fire is conducted by the following methods:

—successive concentration of fire (PSO);
—double successive concentration of fire;
—rolling fire barrage (OV);
—double rolling fire barrage;
—a combination of these methods.

In the double successive concentration of fire method, artillery is divided into two groups. One group fires successively on the first line, while the other engages targets on the second line with successive concentrations of fire. The first group shifts the fire in accordance with the call of battalion commanders or as the battalions reach the limit of safe distance of the first line of PSO fire. The first group shifts fire to the second line while the

second group shifts its fire from the second to third line. The distance between these lines is 400-600-800 m.

Artillery Accompanying Fire

Artillery accompanying fire on targets resisting the attacking troops is conducted in the following forms:

—concentration of fire (SO);
—massive fire (MO).

For artillery to prepare for penetrating enemy defenses, six to eight hours are required. Maneuver of the artillery requires that two of these hours be daylight for coordination and confirmation of missions on the terrain.

During penetration of enemy defenses the following artillery groups need to be established:

—army artillery group (AAG);
—army's rocket [multiple rocket launcher] artillery group (AGRA);
—divisional artillery group (DAG);
—regimental artillery groups (RAG).

Note: Now with increased artillery in Soviet units and large units, assault support fire (when targets are not very mobile) may be conducted to the depth of defending brigade's positions (up to 8 km).

V. Combat Employment of Artillery During the Commitment of the Front's *Second-Echelon into Combat*

One decisive form of expansion of efforts during offensive operations is the commitment of the *front* second-echelon (a combined arms or tank army) into combat. This should greatly change the operational situation in favor of the *front's* attacking troops. The second-echelon army is committed during the completion of the immediate mission or at the beginning of the subsequent mission. The second-echelon army may be committed in the following areas:

—in areas of one or two armies operating in the first-echelon to further develop the attack;
—at adjoining flanks of two armies;
—in gaps created during the operation;
—in areas weakly held by the enemy.

The army is committed in the following ways:

—entirely at once;
—in a successive manner;
—only part of it is committed into combat.

Successful commitment of the second-echelon army into combat requires the conduct of powerful artillery preparatory fire and establishment of artillery groups in the army and its divisions and regiments. The missions of artillery in this artillery preparatory fire are the following:

—destroy enemy nuclear delivery means;
—suppress enemy antitank defenses in the area of commitment of *front* second-echelon forces into combat;
—suppress enemy artillery and mortars;
—destroy enemy troop control systems;
—suppress enemy personnel, weapons, and tanks located in strong points.

Artillery preparatory fire lasts up to 30 minutes and includes two-three heavy artillery strikes each lasting 10-15 minutes. The density of artillery in this case should be 40 to 60 guns and mortars or more per kilometer of front. The expenditure of ammunition will be 0.6–0.8 units of fire.

Assault Support Fire

Assault support fire is conducted on two to three lines mostly by massive fire (MO) and concentration of fire (SO) on enemy defensive strong points.

Accompanying Fire

Accompanying fire is conducted by massive fire (MO) and concentration of fire (SO). In order to support the commitment

of the *front* second-echelons into combat, movement of artillery is conducted toward the area of commitment. This maneuver is conducted to establish the required density of artillery for suppression of the enemy and also to establish the artillery groups of the army, divisions, and regiments. Maneuver of artillery and preparation of fire require four to six hours.

To provide systematic fire support during the commitment of the *front's* second echelon, the artillery of the second-echelon army is committed into combat, as well as the artillery of those troops which operate in the areas of the second-echelon's commitment.

Control of the artillery in the second echelon's area of commitment is conducted by the chief of rocket and artillery troops of the *front*.

Rocket troops remain in their positions, ready to launch nuclear strikes when required.

Front antitank reserves, as a rule, operate jointly with *front* mobile obstacle detachments (POZ). The *front's* antitank reserve is ready for deployment at the line of *front* second-echelon commitment or deploys in front of the line or on threatened flanks of the line of commitment.

Operational Norms for the Density of the Artillery

The operational norms for the density of artillery to inflict simultaneous loss on the enemy during preparatory fire (25-30 percent loss criteria), considering enemy nationality and width of the penetration area are shown on the following table.

	Width of Penetration Area			
Enemy Nationality	*4km*	*6km*	*8km*	*12km*
U.S. Mechanized (Armored) Division	130 per km	120 per km	115 per km	110 per km
FRG Motorized Infantry (Tank) Division	120 per km	115 per km	110 per km	105 per km
U.K. Motorized Infantry (Tank) Division	115 per km	110 per km	105 per km	100 per km
Belgium & Netherlands Motorized Infantry (Tank) Division	110 per km	105 per km	100 per km	95 per km

Average Norm of the Employment of Artillery to Destroy Typical Targets

The norms are shown on the following table.

QUANTITY OF ARTILLERY PIECES FIRING FOR 15 MINUTES

Targets	*Up to 10 Km in Distance*	*More than 10 Km in Distance*
launching pad (to be destroyed	6	12
launching pad (to inflict losses on)	6	6
battery (platoon) of guns, mortars, and self-propelled guns	12	18
battery (platoon) of guns, mortars, and sp guns without armor	6	12
air defense artillery or SAM battery	12	18
radar or control and guidance center	6	12
personnel in covered strong points of platoons (6 hectares)	12	18 in prepared defense
personnel in covered strong points of platoons (6 hectares)	12	12 in hasty defense
division forward command post (8 hectares)	24	36
brigade command post (4 hectares)	12	18
battalion command post (2 hectares)	6	12
personnel (covered) in assembly areas infantry (company in 400 x 400 meters)	54 same for tank comapny	54 same for tank company
personnel in assembly area (in open and exposed infantry company)	18	18

VI. Characteristics of Artillery's Combat Employment in Front *Defensive Operations*

Defense by the *front* in contemporary times is a temporary and forced form of operations. It is assumed only when attack is

not possible due to a lack of forces and means or when the attack is not logical on the basis of operational and strategic concepts. In any case the *front* assumes the defense when its forces and means are not sufficient for attack. Therefore, it opts to inflict heavy losses on the enemy by defensive actions and to change the correlation of forces and means in favor of friendly forces. Then it initiates offensive operations for achieving assigned aims.

Specific issues related to employment of artillery in *front* defensive operations follow:

Missions and Principles of Combat Employment of Artillery in Defensive Operations

Artillery's Missions in Defense

Artillery's missions in defense are the following:

—destroy and suppress enemy nuclear delivery means;
—inflict losses on main groupings of enemy forces:

  —by massive fires from temporary positions during enemy movement toward the defense;
  —by massive fires from temporary positions during enemy deployment in assembly areas;
  —by counterpreparatory fires, massive fires, and concentration of fires from temporary positions on the enemy forces in their attack positions inflicting heavy losses on enemy main groupings;

—repulse enemy attacks with all systems of fire such as:

  —rolling barrage (PZO);
  —fixed barrage (NZO);
  —massive fires (MO);
  —concentration fires (SO);

—inflict losses on the enemy during combat in the depth of the defense, preventing penetration of the enemy to the flanks by:

—fixed barrage fire (NZO);
—rolling barrage fire (PZO);
—massive fire and concentration fire (SO);

—inflict losses on the enemy during counterpreparatory fire which is conducted by:

—one heavy fire strike;
—short preparatory fire;

—conduct assault support fire by:

—successive concentration fire (PSO) on two to three lines;
—massive fire and concentration fire in support of counterblows;

—conduct accompanying fire by:

—massive fire (MO);

—concentration fire during the conduct of counterblows;

—fight enemy artillery during combat actions to achieve fire superiority over the enemy on specific directions.

Distribution and Grouping of Artillery

During defensive actions the *front* will receive smaller artillery reinforcements. Therefore, the *front* distributes available artillery among armies and retains part of it for establishing its own antitank reserve. As in the offensive operation, the *front* does not establish the *front* artillery group. The following artillery groups will be created in defensive operations:

—regiment artillery groups (RAG); established in regiments operating on directions of enemy main attacks or defending on main defensive directions;
—division artillery groups (DAG); established in all divisions to assist regiments defending on directions of enemy main attacks and to inflict losses on enemy artillery and mortars.
—army artillery groups (AAG); established when sufficient artillery is available in the *front* and when enemy attacks

are likely to be launched on specific directions and enemy attacks are expected to be conducted in narrower frontage.

Principles of Artillery Employment

Principles of artillery employment are the following:

—massive use of artillery to foil enemy attacks and to inflict maximum enemy losses. Concentrate fire power on axes of enemy main attacks and on movement routes, deployment lines, and attack positions of the attacking enemy;
—establish a barrage of dense artillery and direct trajectory fire and fires of antitank weapons in front of the forward line (FLOT) on likely directions of enemy attacks. Conduct fire against enemy tanks and nuclear weapons;
—continue support of the combat action of defending troops during operations and during conduct of counterstrikes and counterattacks;
—continue interaction with rocket troops, air force, motorized rifle, and tank forces in foiling enemy attacks.

Organization of Combat Employment of Artillery in* Front *Defensive Operations

Organization of combat employment of artillery in *front* defensive operations is the sum of measures conducted by the chief of *front* artillery and rocket troops and his staff on organization of the use of artillery units and large units in defensive operations which include the following:

—make decisions on employment of rocket and artillery troops;
—plan combat employment of artillery and rocket troops;
—assign (convey) missions to rocket troops and artillery;
—organize coordination (interaction);
—prepare main, alternate, and temporary positions of artillery and prepare lines of deployment (lines of fire) and positions of antitank reserves;
—collect, issue, and store supplies;
—organize political training;

—organize all types of supporting measures;
—organize troop control, prepare command posts, and establish signal systems;
—prepare troops for action and maintain high combat-readiness of troops for accomplishing the assigned missions.

Counterpreparatory Fire in Front *Defensive Operations*

In defensive operations, in order to foil enemy attacks or weaken or delay enemy attacks, counterpreparatory fire may be conducted by *front* artillery and rocket troops.

Aims of Counterpreparatory Fire

Aims of counterpreparatory fire include the following:

—foil enemy attacks;
—weaken striking enemy groupings;
—gain time to complete defenses and to delay enemy attacks.

Missions of Artillery During Counterpreparatory Fire

Missions of artillery during counterpreparatory fire are as follows:

—destroy enemy nuclear delivery means;
—suppress enemy artillery, mortars, and air defense artillery;
—destroy enemy command and control systems (enemy command posts, command and control, and communication means);
—inflict losses on enemy groupings of forces, particularly tanks.

Planning of Counterpreparatory Fire

Counterpreparatory fire is planned in the following forms:

—while in direct contact with the enemy; in this case main fire strikes are launched against enemy artillery and tank troops;

—while the enemy is located in depth and moving to attack defenses from the line of march, i.e., when the enemy is initially out of range of the artillery of the defending forces; in this case the artillery launches strikes against enemy forward command posts and his artillery while friendly aircraft and rocket troops deliver strikes on main groupings of enemy forces in depth.

Troops Participating in Counterpreparatory Fire

During counterpreparatory fire as many artillery, air force, and rocket troops as possible are employed, i.e., all available artillery of first-echelon divisions, armies' artillery, and artillery of armies' second-echelon divisions are employed.

Counterpreparatory fire is conducted from temporary positions. Considering (including) the maneuver time of artillery, four to six hours are required for preparation of artillery to conduct counterpreparatory fire.

Counterpreparatory fire is a *front* level measure. It is conducted in accordance with decisions of the *front* commander. Under some conditions counterpreparatory fire may be conducted in army areas as well. Direct preparation of counterpreparatory fire is conducted in army areas.

Duration of counterpreparatory fire includes two to three strikes lasting 10 to 15 minutes.

The depth of counterpreparatory fire is extended as far as the range of the artillery will permit. It is conducted against enemy first-echelon divisions. Aircraft launch strikes against targets in the enemy's depth.

The density of artillery during counterpreparatory fire is 30 to 40 guns and mortars per kilometer of front.

Combat Employment of Artillery During Struggles Against Enemy Tanks During the Defense

One of the important issues in the defense is the struggle against enemy tanks and armored vehicles. The struggle includes the following:

—coordinate artillery fire with strikes of rocket troops and the air force;
—continue cooperation with tank and engineer troops;
—prepare all artillery for struggle against tanks, prepare all types of fires, and deploy artillery to cover tank threatened directions so that it may engage the intruding tanks with direct (flat trajectory) fire.

In this case, destruction of tanks is conducted from artillery's primary positions or through relocation of artillery to positions prepared in advance for this purpose.

Destruction of enemy tanks is conducted by the following methods:

—massive fires (MO), concentration fires (SO), and barrage fires from covered positions against tanks in their assembly areas, during their movement to the defensive positions, and during their deployment;
—in front of the forward defense line and in the depth, by fires of antitank guided missiles, antitank artillery, other artillery and tanks conducting direct fire and by antitank grenade launchers and other means coordinated with antitank obstacles.

Antitank artillery of an army possesses great capabilities in destroying enemy tanks. Antitank artillery in the army (composed of four motorized rifle divisions, one tank division, and one antitank brigade of the Supreme High Command reserve) totals 594 pieces of antitank weapons.

In defense one antitank gun is considered capable of destroying two enemy tanks. Therefore, theoretically army antitank artillery is capable of destroying up to 1,200 enemy tanks. This constitutes the total tanks of four to five enemy divisions.

Employment of Antitank Reserves

Antitank reserves are established at all levels from the regiment to the *front*. Coverage capability in terms of fighting against tanks across the front is as follows:

—platoon covers a 400 m front;
—battery covers a 1,000 – 1,200 m front;
—division's separate antitank battalion may cover a three to four km front;
—army's antitank regiment may cover a 8 to 19 kilometer front;
—an antitank brigade of the Supreme High Command's reserve may cover a 15 to 20 kilometer front.

The typical composition of antitank reserves at different levels is as follows:

—division's separate antitank battalion constitutes the divisional antitank reserve;
—army's antitank regiment constitutes the army's antitank reserve;
—antitank brigade of the Supreme High Command reserve may constitute *front* antitank reserves.

When the army is reinforced by an antitank brigade of the Supreme High Command reserve, the army's antitank regiment will be employed to establish the antitank reserves of divisions operating on the main direction. In this case antitank brigades of the Supreme High Command reserve will be employed as the army's antitank reserve.

Missions of Front *Antitank Reserves*

Missions of *front* antitank reserves are as follows:

—destroy enemy tanks which have penetrated into the defense;
—reinforce army antitank defense;
—repulse enemy strikes of large units of tanks;
—cover flanks of second-echelon troops against tank attacks during the conduct of counterstrikes;
—destroy enemy airborne troops;
—cover open and threatened flanks.

The *front* antitank reserves may number one or two, which will jointly operate with mobile obstacle detachments (POZ).

Front antitank reserves deploy 60 to 70 kilometers from the forward line of defense on tank threatened directions. They establish two to three fire lines on each direction 10 kilometers apart from one another.

Front antitank reserves along with antitank reserves of one army may cover 30 to 31 kilometers of front and may repel the attacks of up to two enemy divisions.

Combat Employment of Artillery in Front

Counterstrikes During Defensive Operations

The *front's* counterstrikes during the defensive operation are a turning point in the course of military actions. The *front's* counterstrikes may also be coordinated in a converging form against main enemy groupings which have penetrated the defense.

The maximum available forces and means are assigned for launching counterstrikes. This means that the required superiority of forces and means over the enemy are established on actual axes.

During counterstrikes, efforts are made with artillery fires and strikes of air force and rockets to prevent the movement and arrival of enemy reserves and second-echelon forces to penetrated areas. Friendly forces launch their counterstrikes against enemy penetrations which are cut off.

Planning Counterstrikes

Planning of counterstrikes is conducted during the preparation of the operation. It is confirmed during the conduct of the operation. Based on decisions of the *front* commander, the *front's* artillery staff plans the following:

—establish artillery groupings and time of their arrival in positions;
—duration and structure of preparatory fire;
—methods of support of counterstrikes by artillery;
—troops control and communications.

Artillery Forces and Means Assigned to Support Counterstrikes

They include all artillery which is organic to the groupings of forces assigned to conduct counterstrikes such as, army artillery groups, division artillery groups, and regiment artillery groups. These are established beforehand or created as part of the regroupment to support the counterstrikes. Thus during the establishment of the groupings of forces for counterstrikes, regroupment of artillery may also be accomplished.

The following are also called to inflict losses on the enemy and to support the forces which conduct the counterstrikes:

—artillery groups of adjacent large units and armies defending in the direction of the conduct of *front* counterstrikes;
—*front* aviation and rocket troops.

In addition to the time of the movement of the artillery, 1-1.5 hours of daylight for the artillery units and 2 hours of daylight for the army artillery is required for necessary preparation.

Prior to initiation of counterstrikes, artillery preparatory fire is conducted. The duration depends on the desired level of enemy suppression or the distance to be covered by forces moving to launch counterstrikes, when it is to be conducted from the line of march. Generally speaking artillery preparatory fire may last 30 to 40 minutes. It may be conducted in two to three strikes each of 10 to 15 minutes. It may also be conducted in one heavy fire strike.

Artillery Missions During Preparatory Fire

Artillery missions during preparatory fire accomplish the following:

—destroy enemy nuclear delivery means;
—inflict significant losses on enemy artillery, mortars, antitank weapons, and air defense artillery;
—suppress enemy personnel in close contact with forces which launch counterstrikes;
—destroy enemy command and control systems.

Supporting Fire

Supporting fires for counterstrikes are conducted to the depth of enemy first-echelon battalions, i.e., up to three km in the following ways:

—successive concentration fire (PSO);
—double successive concentration fire;
—rolling barrage (OV);
—massive fire (MO);
—concentration fire (SO) on call.

Accompanying Fire

Accompanying fire for counterstrikes is conducted by concentration fire (SO) and massive fire (MO) against targets which withstand the counterstrike.

VII. Combat Employment of Rocket Troops in Front *Offensive Operations*

Role, Composition, Missions, and Principles of Combat Employment of Rocket Troops in Front *Offensive Operations*

The *front* offensive operation is part of the strategic operation in the TVD. It is conducted in coordination with adjacent *fronts* and operational formations of other services of the armed forces.

To achieve the aims of the offensive operation of the *front*, the decisive role is played by the strategic nuclear forces which destroy main enemy groupings and vital targets and areas in the TSMA.

Strategic rocket forces' highly destructive power, accuracy of nuclear strikes, and their practically unlimited range of rocket strikes support the following:

—infliction of decisive losses on enemy nuclear forces;
—destruction of enemy military and economic potential;
—disruption of enemy government and military control systems at the strategic and operational levels;

—infliction of losses on main enemy armed forces groupings in the TSMA.

During the initial nuclear strike the strategic rocket forces destroy the following targets in cooperation with long-range aviation and naval nuclear forces in the TSMA:

—rocket and air force bases;
—airfields of strategic and tactical aircraft (where nuclear armed aircraft are based);
—launch sites of operational-tactical rockets;
—nuclear warhead depots;
—air defense (PVO), space defense (PKO), and antiballistic missiles (PRO) forces and means;
—large units in assembly areas (constituting the reserve of the important enemy groupings;
—areas of mobilization of forces, naval bases, ports, administrative, political, and industrial centers, state and military command centers.

Despite this, there will be a large number of targets in the operational depth (up to 300 km) which are to be destroyed by *front* rocket troops such as the following:

—nuclear weapons;
—air forces and nuclear depots;
—main groupings of enemy forces, particularly tank and motorized forces;
—command posts;
—air defense means;
—vital enemy logistic sites, the destruction of which will destroy the stability and viability of the enemy in operational depths.

Since operational-tactical nuclear weapons have a longer range, higher accuracy, and different yields of nuclear rounds, they play a significant role in the quick destruction of important enemy tactical and operational targets.

Missions of Rocket Troops

The missions of rocket troops are as follows:

—destroy enemy nuclear means such as, nuclear delivery means, nuclear aviation, and nuclear munitions depots;
—destroy enemy main groupings of forces and their tactical nuclear means, particularly enemy groupings of tanks and mechanized forces;
—destroy enemy troop control and command and control points such as command posts, signal sites, and control centers;
—destroy air defense systems and means such as air defense rockets, air defense artillery, radar stations, and fighter aviation;
—inflict losses on enemy logistic targets and installations.

Main Principles of Employment of Rocket Troops

The main principles in employment of rocket troops are as follows:

—nuclear weapons are used against confirmed targets for which accurate reconnaissance information exists;
—nuclear weapons employed in mass, using surprise to achieve the optimum results;
—nuclear weapons are used to accomplish the most important tasks such as destruction of nuclear weapons and main groupings of enemy forces;
—nuclear weapons are used in close cooperation with other services of the armed forces, branches, and weapons.

Forms of the Conduct of Missions

Forms of the conduct of missions and strikes of rocket troops are as follows:

—*Massive strikes*: such as the *front's* initial nuclear strike;
—*Group strikes*: employment of several nuclear rounds on one target such as, the use of two rounds on a battalion and the use of 12 to 16 rounds on one division;
—*Individual strikes*: strikes on individual important targets.

Composition of* Front *Rocket Troops

The composition of *front* rocket troops is not standard but depends on *front* missions, its role in strategic operations and its types of operations (offensive or defensive). The composition of *front* rocket forces may include the following:

—*Front's rocket brigades*: The number of such brigades in the *front* may be one to two. The brigade consists of the staff, three rocket battalions, control battery, transportation company, meteorological battery, combat engineer company, and several other separate subunits. Each rocket battalion has four launching systems and therefore, there are 12 launching platforms (systems) in the brigade. If *front* rocket troops consist of two rocket brigades, then there will be 24 launching platforms (launchers) of R-300 [NATO designation: Scud] operational-tactical rockets in the *front*. For each launcher there are two nuclear-tipped rockets and therefore, in *front* rocket troops there may be 24 to 48 nuclear rounds.

—*Army's rocket brigade*: As a rule there is one separate rocket brigade in each tank and combined arms army. Therefore, depending on the number of armies in *front*, there may be four to five army rocket brigades. The army's rocket brigade is composed of the following elements:

—three rocket battalions;
—control battery;
—transportation company;
—meteorological battery;
—combat engineer company;
—several other separate platoons.

Each rocket battalion had three launchers. Therefore, there are nine R-300 rocket launchers in the army's rocket brigade. Each launcher has two nuclear-tipped rockets with a total of 18 nuclear rounds (rockets) in the brigade.

—*Division's separate rocket battalion*: There is one separate rocket battalion in each motorized rifle and tank division. The division's separate rocket battalion is composed of two

launch batteries, control subunits, technical service platoon, and signal platoon. Each launch battery includes two rocket launchers. Therefore, there are a total of four launchers R-65 rockets [NATO designation: Frog] in the battalion. Each launcher has 3 nuclear-tipped rockets with a total of 12 rounds in the battalion. When a *front* includes 22 to 25 motorized rifle and tank divisions there will be a total of 88 to 100 launchers of tactical R-65 rockets with a total of 264-300 nuclear rounds of R-65 tactical rockets.

Tactical and Technical Characteristics of Rockets

The *front* and army rocket brigades, as a rule, are composed of R-300 operational-tactical rockets. Divisional rocket battalions are equipped with R-65 tactical rockets.

Characteristics	*R-65*	*R-300*
Maximum range	67 km	300 km
Minimum range	3.5 km	50 km
Yield of nuclear rounds (KT)	3, 10, 20	20, 40, 100

Combat Capabilities of Rocket Troops

The combat capabilities of rocket troops in terms of inflicting losses on various targets, time to prepare for strikes, and their maneuverability are as follows:

CAPABILITIES TO INFLICT LOSSES ON VARIOUS TARGETS

—*Front rocket troops*: Have the following capabilities for destroying or suppressing enemy targets:

—During the initial nuclear strike the *front* rocket troops may destroy six to nine enemy divisions as well as nuclear ammunition depots; corps, army and army group command posts; radar, air control, and air defense control centers. They may also damage tactical aircraft on the airfields and suppress the bulk of air defense rockets.

—*Army rocket*: Army rocket troops using nuclear warheads have the following capabilities:

—They may destroy a Sergeant guided missile battalion and up to two to three enemy divisions, including their tactical nuclear delivery means. Or they may inflict 40 percent losses on four-five enemy divisions.

There are 24 to 34 operational-tactical (R-300) and tactical (R-65) rocket launching systems. The army may participate in *front* initial nuclear strikes with 25 launching systems. To destroy one division 10 to 12 rockets are required. Six to eight rockets are needed to suppress one division.

COMBAT CAPABILITIES OF DIVISION ROCKET TROOPS Combat capabilities of division's rocket troops are as follows:

—Three to four divisional rockets with a yield of 3, 10, and 20 kilotons may destroy three-four targets, such as enemy command posts, two enemy tank or infantry battalions at a depth of 50 km. The follow-on strike may be launched after 1.5 hours.

—Depth of destruction in terms of maximum range of rockets and distance of rockets positions from the forward line of friendly forces is as follows:

—In the Attack: Rocket brigade may destroy targets located up to a distance of 240-270 km from the frontline while the brigade deploys in positions 30-60 km behind the frontline.

Divisional rocket battalions may destroy targets located up to a distance of 55 km from the frontline. The battalions deploy in positions 10 km behind the frontline.

—In Defense: Rocket brigades may destroy targets located up to 220-240 km from the frontline. The brigade deploys in positions 60 to 80 km behind the frontline.

Divisional rocket battalions may destroy targets located up to 45 to 50 km from the frontline. Battalions deploy in positions 15 to 20 km behind the frontline.

CAPABILITIES TO PREPARE LAUNCHING STRIKES The capability of rocket troops to prepare for strikes depends on the state of readiness of the rocket troops, their location, the

occupation launch sites by the rocket troops, charging (*zapravka*) of rockets, mounting of rockets on launchers (*peregruzka*), arming of the warhead (*stikovka*), final launch preparation, and time for reconaissance of targets to be destroyed.

There are four degrees of technical readiness of rockets. Time required to launch from each degree of readiness is considered as follows:

Degree of Readiness	*Time To Launch (R-65)*	*Time To Launch (R-300)*
degree of readiness #3	19 minutes	25 minutes
degree of readiness #2	16 minutes	19 minutes
degree of readiness #2a	5-7 minutes	13 minutes
degree of readiness #1	1 minute	4 minutes

CAPABILITY OF MANEUVER OF ROCKET TROOPS The capability to manuever includes conduct of march (movement); deployment of the rocket troops in positions; assembly, fueling, and loading of rockets; and mounting of warheads. The accepted norms in this regard are shown in the following table.

Type of Rocket	*Speed of Movement in Km/h*	*Time to Assemble (Minutes)*	*Time to Deploy (in Minutes)*	*Speed of Movement in Position Area*	*Time of Mounting Warhead (in Minutes)*
operational tactical rockets R-300	30	30	to the degree of readiness #3: 40 min. to the degree of readiness #2: 60 min	1km in 3 min.	40
tactical rockets R-65	30	20	to the degree of readiness #3: 30 min. to the degree of readiness #2: 40 min.		

Organization of Combat Employment of Rocket Troops in* Front *Offensive Operations

The organization of combat employment of rocket troops in *front* offensive operations includes a number of measures taken

by the chief of artillery and rocket troops of the *front* and his staff. The important measures on organization of combat employment of rocket troops are as follows:

—make decisions on employment of rocket troops;
—plan combat employment of rocket troops;
—assign missions to rocket troops;
—prepare launch sites of rockets of the first-echelon divisions to support the deployment of main groupings of forces;
—organize supply of nuclear and chemical rounds;
—organize support;
—organize troop control, prepare the command posts, and establish communications;
—maintain high combat-readiness of rocket troops for accomplishing assigned missions.

Planning Front *Initial Nuclear Strike*

The plan for the initial nuclear strike is an important part of the *front's* plan of operation. The missions of the initial nuclear strike are as follows:

—destroy enemy nuclear weapons such as enemy nuclear aviation, nuclear depots, and nuclear rockets;
—destroy enemy groupings of forces, particularly enemy groupings of tanks and mechanized forces, including their tactical nuclear means;
—destroy enemy control systems such as command posts, signal centers, and guidance points;
—destroy enemy air defense means;
—inflict losses on enemy logistic targets and installations.

Planning of the initial nuclear strike is conducted by the *front* chief of staff, the chief of *front* operations directorate, in conjunction with the chief of *front* artillery and rocket troops, and the commander of the *front* air army. Plans are made on the basis of instructions from the *front* commander. The initial nuclear strike is included in the plan for combat employment of artillery and rocket troops and the map of the initial nuclear strike. The map of the initial nuclear strike reflects the time of

arrival of rocket troops, time of deployment, technical preparation of fire (charging and mounting of rockets), and direct preparation for fire (simultaneously or successively bringing the troops to a state of readiness). As a rule rocket troops are brought to the degree of fire readiness number 1 fifteen minutes before fire to avoid enemy detection of preparation for the initial nuclear strike.

The targets of the initial nuclear strike are generally specified by the *front* commander and the degree of losses to be inflicted on each target is also determined by the *front* commander. The map and structure of the initial nuclear strike are determined by the chief of *front* artillery and rocket troops and the commander of *front* air army through distribution of targets among rocket and aviation troops. The chief of *front* artillery and rocket troops then distributes the targets among rocket units and large units. In order to insure effective losses on targets, in some conditions the targets of divisional rockets are specified by the army's chief of artillery and rocket troops.

Parallel with the assignment of missions to subordinates by the *front* commander, the chief of *front* artillery and rocket troops determines the following:

—fire positions and deployment of rocket troops;
—which large units (units) are to launch their strikes on which targets;
—specific targets and their ranges;
—yield of nuclear rounds and number of rounds for each target;
—center of each nuclear burst (explosion);
—altitude of air bursts and safe distance of friendly troops from the center of nuclear bursts.

During planning crisscrossing of the path of flight of rockets is avoided.

After the distribution of targets and nuclear rounds, the rocket troops move to their positions, occupy positions, and the rocket troops are brought to a state of full combat-readiness.

A large number of rocket launchers are assigned to participate in the initial nuclear strike including, rockets of the second-

echelon divisions of the first-echelon armies. To reinforce striking power, warheads with a high yield are assigned; each launcher will fire two rockets. The first strike is conducted at the signal of the initiation of *front* initial nuclear strike, and the second strike is launched after the air force strikes.

The control of troops during the initial nuclear strike is conducted in accordance with the *front* signal. The chief of artillery and rocket troops of the *front* repeats the signal.

The initial nuclear strike is planned against targets located short of the boundary line of strategic nuclear strikes drawn at a distance of 250 km from the frontline and sometimes further on. The possibility of planning enemy losses in the entire *front* operational depth is not excluded.

Organization of Front *Initial Nuclear Strikes During the Conduct of the Offensive Operation*

As a rule the initial nuclear strike of the *front* is planned in advance prior to the initiation of the operation. The missions are readjusted and confirmed in accordance with the actual combat situation during the conduct of the operation and assigned to subordinates. During direct preparation for fire the map of the initial nuclear strike is updated and necessary changes are incorporated in the graphics.

The specifics on the preparation of *front* initial nuclear strikes during the conduct of the operation are as follows:

Reconnaissance becomes very important, and information about targets to be destroyed is continuously acquired and reconfirmed. Accordingly, planning of nuclear strikes is adjusted.

More responsibility is delegated to the army and division commanders with targets selected by them. All rocket troops and means of control are maintained at the highest level of combat-readiness. Missions are conveyed quickly to the troops. Continuous control of the fulfillment of missions is conducted.

The rocket troops are frequency and regularly moved during the conduct of the operation. The level of combat-readiness of those rocket troops which use nuclear weapons is upgraded during the course of the operation.

The timely and thorough organization of technical support of rockets is conducted and relocation of rocket troop positions is effected. The all-around combat supporting measures of rocket troops are taken, such as the preparation of launch areas, engineer support, concealment (*maskirovka*) of the combat formation of the rocket troops, protection against mass-destruction weapons, local security, and defense measures.

As the time of the initiation of the initial nuclear strike nears, the launch batteries are brought to a high state of combat-readiness and technical preparation of rockets for fire is conducted. The signal to bring the rocket troops to required levels of readiness is given by the *front* commander.

The control of the rocket troops in this phase is fully exercised by the army commanders.

Employment of Front *Rocket Troops to Repel Enemy Counterstrikes*

In order for the enemy to stop the attack of the friendly troops he will launch counterstrikes using his reserves. This will prevent further advance into the depth of his territory and subsequently destroy the attacking forces. If enemy counterstrikes succeed in stopping the attack of friendly troops and destroying them, then the enemy may open a new phase in the course of the conduct of the *front* offensive operation.

To foil enemy counterstrikes rocket troops are employed in the following ways:

—continuous and reconfirming reconnaissance of enemy nuclear weapons, detection of their preparation for fire, location of enemy reserve assembly areas, and directions of their movement;

—maintaining rocket troops in the highest state of combat-readiness so that they may quickly launch their decisive strikes on the enemy;

—launching massive and group nuclear strikes on enemy reserves in assembly areas, during their movement, and during their deployment to launch their counterstrikes on friendly forces;

—if the enemy succeeds in deploying, then massive nuclear strikes are launched on his main tank and mechanized forces, his command posts and artillery;
—strikes of friendly tank and motorized rifle troops are then launched against the flanks and rear of main enemy groupings which are conducting the counterstrike, the grouping is encircled and destroyed while the main forces continue advancing into the depth of enemy defenses.

Organization of Combat Support Measures of the Front *Rocket Troops*

The combat support measures of rocket troops constitute one of the main factors in achieving success in combat. The combat supporting measures are taken for the following reasons:

—to create favorable conditions for friendly fires;
—to reduce the effectiveness of enemy nuclear and conventional fire and actions of enemy troops;
—to destroy the enemy's troop control system.

Combat supporting measures include the following:

—acquisition of reconnaissance and reconfirming reconnaissance information on enemy targets;
—preparation of launch sites;
—concealment of launch sites, weapons and combat equipment;
—protection of troops against enemy weapons of mass destruction;
—close security;
—defense against enemy air strikes;
—radio-electronic combat;
—rocket supporting measures;
—topogeodetic, topographic, and hydrometeorological support;
—rear service, material, and medical support.

Combat-Readiness of Rocket Troops

There are three levels of peacetime combat-readiness specified for rocket troops:

1. *Constant combat-readiness of rocket troops*: Personnel conduct their routine training and are capable of conducting assigned missions. Equipment is ready for combat employment. Systems, ammunition, and supplies are stocked at required levels.
2. *Higher combat-readiness*: This is a state of combat-readiness from which the units and subunits may be brought to full combat-readiness in the shortest time. In this state of combat-readiness, all units and subunits are brought back to the garrison from exercise areas and other off-post duties. They are restricted to post. The guard duty detail is reinforced, and training is conducted in full combat-readiness. Officers and men are called back from leave. Ammunition, equipment, and other supplies are loaded on vehicles. Units and subunits are ready to move out from the garrison. Operational groups with signal communications are detached to command posts. Two to three hours are required to bring the rocket troops to the state of higher readiness.
3. *Full combat-readiness*: This is assumed in accordance with the plan or upon receipt of combat alert signals. Under this state of combat-readiness, the units and subunits move out of their garrisons to assembly areas and launch areas. They then occupy firing positions. Units and subunits conduct technical readiness, launching pads are loaded, and units get prepared for the conduct of missions. Units and subunits in assembly areas are augmented up to full combat strength with mobilized reserves.

Rocket brigades must achieve full combat readiness within 6.5-7 hours, discounting travel time.

Full combat-readiness is a state in which rocket troops and artillery may rapidly initiate the conduct of combat missions, i.e., armies and *front* rocket brigades and rocket battalions of motorized rifle and tank divisions deploy in their launch areas

and they are ready to initiate actions planned in the *front's* initial nuclear strike.

In full combat-readiness firing batteries are in primary or launching positions in the state of readiness number 3, 2, 2A, or 1.

Technical Preparation of Rockets

When the signal is received, rocket troops take the following measures:

Rocket troops occupy main launch areas or they deploy in assembly areas designated to be occupied after receiving the combat alert signal. There, rocket troops conduct technical preparations for fire.

Four sites for assembling and fueling rockets are established in a rocket brigade (one at the brigade technical base and one each in battalion technical platoons.

At this point fueling, loading, and mounting warheads begins.

The time of fueling, loading, and mounting warheads is as follows:

Type of Action	*R-65 Tactical Rocket*	*R-300 Tactical-Operational Rocket*
fueling-charging (*zapravka*)		60 min.
loading (*peregruzka*)	15 min.	40 min.
mounting of the (*stikovka*)	25 min.	60 min.

Then launchers are moved to the launch position. There, depending on the situation, they are placed in state of readiness number 3, 2, 2A, or 1.

Technical readiness is as follows:

Readiness Number 3: The launch battery is deployed in the launch position. Launchers are loaded and the battery may fire after 25 minutes.

Readiness Number 2: The launch battery is aimed in the main (*osnovnoi*) direction, the rocket is in a horizontal position. Rockets may be launched after 19 minutes.

Readiness Number 2A: The rocket is aimed at the target. The securing mechanism is released from the rocket. Fire may be launched after 13 minutes.

Readiness Number 1: The rocket is aimed at the target and is brought into a vertical launch position. Three to four minutes are required to launch the rocket.

TIME FOR BRINGING ROCKET TROOPS
TO FULL COMBAT-READINESS

1. To bring R-300 rocket brigades to state of readiness number 3, when four sites of assembling and charging (fueling) of rockets are established, 6.5-7 hours are required (excluding the march and movement time). This time may be broken down as follows:

—time to assemble on combat alert signal (30-40 minutes);
—time to deploy rocket technical subunits (20 minutes);
—total time of technical preparation (five hours).

To bring divisional R-65 rocket battalions to readiness number 3, when two sites of assembling and loading of rockets are established, a two hour time is required (excluding the march and movement time). This time may be broken down as follows:

—time to assemble on combat alert signal (30-40 minutes);
—time to deploy rocket technical subunits (5 minutes);
—total time of technical preparation in divisional separate rocket battalion (80 minutes).

Other calculations related to movement and deployment of rocket troops are as follows:

—speed of advance of rocket troops during the march (25 to 30 km per hour);
—time for deployment of a separate rocket battalion (divisional) (40 minutes);
—time for deployment of a rocket brigade (2.5 hours);
—time to reassemble:

—for battalion (40 minutes);
—for brigade (2.5 hours).

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CHAPTER FIVE

Rear Service Support in Front *Operations*

I. Introduction

Rear Services

Rear services are an inseparable part of the Armed Forces of the country. They include units, large units and rear service installations together with storage sites for materiel reserves and equipment, which are to form an organic part of units, large units, and operational formations. Rear services include units, large units and rear service installations directly under the control of the central organs of the rear services. Rear services may be divided into three distinct categories: rear services of the forces, operational rear services, and rear services of the center.

Troop Rear Services

These include rear service units and subunits, which have control of mobile storage assets and form an organic part of large units, units, and subunits, and whose mission it is to

provide direct materiel, technical, and medical support under any type of conditions or circumstances.

Operational Rear Services

These include rear service units, large units, and installations, which form an organic part of operational formations and are assigned to provide all around rear service support for the forces. The operational rear services includes the *front* rear services, military district and PVO district, army rear services (rocket [artillery], infantry, armor, aviation, air defense), Air Forces, Naval Aviation and naval bases. Organization of the operational rear services is not fixed and depends upon the combat composition, mission of operational formations, and the combat environment in the theater of strategic military action.

Rear Services of the Center

Central rear services include large units, units, and rear service installations which are directly subordinate to the Main Administration of the Center, Ministry of Defense and the services of the Armed Forces. During peacetime, all support in the form of Armed Forces materiel, missile propellants, POL (*gorivchee i smazochnie materialy*—GSM), rations, clothing, pharmaceuticals, and medical support are provided by a single system of supply services through military districts and groups of forces. During wartime, the above services are provided through the *front* rear services organization, by using military district facilities (units and rear service installations) and by taking advantage of local means.

II. The Tasks and Probable Composition of the Front *Rear Services*

Rear services support consists of a number of measures concerning the organization of the rear services, preparation and utilization of the communications routes and transportation means, and provision of materiel, technical, medical and other types of support and services to the troops. In *front* operations

such support is provided by the rear services of the troops, armies and *front*.

Troop and army rear services are completely mobile and maintain the following amount of materiel: in a division, for four to five days; in an army, for six to seven days of combat action:

The *front* rear services constitutes the materiel and technical base for rear service support of the troops throughout the entire depth of the *front's* offensive operation. The *front's* rear services has the following tasks:

—supplying the troops with all kinds of supplies, timely establishment and maintaining of specified reserves, and their continuous delivery to the troops;
—preparation and reliable operations of supply routes and transportation means along with the organization of commandant services on the *front's* main supply routes;
—collection, evacuation and repair of damaged vehicles and weapons;
—providing medical assistance and treatment of the wounded and sick, taking antiepidemic and preventive (sanitary) measures during the *front* offensive operation;
—organizing protection, security, and defense of rear services installations and keeping order in the *front's* rear area;
—performing tasks concerning veterinary and billeting services of the troops and the utilization of local and captured resources.

Troop control of the *front's* rear services is exercised by the *front* commander through the *front* staff, the deputy *front* commander for rear services, and the chiefs of services directly subordinate to him. The staff of the *front* rear services and the following chiefs of services are subordinate to the chief of the *front's* rear services (deputy *front* commander for rear services): chiefs of motor transport service, motor routes, military communications service, POL supply service, medical service, food supply service, clothing supply service, veterinary service, billeting service, and military trade service.

The following service elements are directly subordinate to the *front* commander:

—rocket and artillery armament service;
—armored vehicle service;
—motor-tractor service;
—engineer service;
—chemical service.

The composition of *front* rear services is not permanent and depends on the composition of the *front,* the missions of the *front*, the nature of the TSMA and the volume of tasks to be accomplished by the *front's* rear services. The composition of the *front* rear services can be as follows:

—forward and rear bases of the *front* with various supply depots and service units;
—mobile rocket technical bases and other units involved in providing support for rocket units organic to the troops;
—units and large units of railroad, highways, motor transport, and pipeline troops;
—*front* forward hospital bases, *front* rear hospital bases, separate medical detachments, and other special medical units and facilities;
—military [line of] communications service elements;
—repair and evacuation units and facilities in support of combat arms and services;
—rear service signal communications units and facilities;
—field military trading stores, bank offices, and military mail;
—rear service security units and large units.

In addition, special loading and unloading facilities and specialized facilities for communications routes may be allocated to the *front*. The total strength of the *front's* rear services may reach the following figures:

—the number of large units, units, and independent installations: 2,500-3,000;
—personnel: 160,000-170,000;
—vehicles: 25,000-27,000.

The responsibility for the timely supplying of troops with weapons, combat vehicles and equipment and other materiel means belongs to the chiefs of arms and services. This should be taken into account in organizing rear services support in *front* offensive operations.

III. Organizational Composition, Tasks, and Capabilities of Front *Rear Service Units, Large Units, and Installations*

Forward Front *Bases*

The forward *front* bases are designated to maintain a specific amount of materiel reserves and ensure their timely delivery to army (troop) bases. They are also assigned to conduct repairs of clothing, equipment, vehicles, and large assemblies of POL and food service technical equipment. They also reprocess POL reserves, provide laundry service, and supply bread.

Front bases are self-sufficient in transportation means even when they are located far away from railroads. They can move to new locations by their organic transportation means. The capacity of supplies maintained in a forward *front* base is 7,000 tons which can supply supported troops for three to four days without outside replenishment. Each forward *front* base can supply one to two armies and the *front's* units and large units, the support of which is assigned to the forward base.

The forward *front* base consists of a base headquarters, one depot for each type of supply item, two independent service companies, an independent rear service engineer company, an independent rear service chemical protection company, three mechanical field bakery plants, maintenance facilities to repair the equipment of the POL supply service, as well as large technical equipment belonging to food and clothing supply services, a mobile POL reprocessing station for motor fuel, two mechanical field laundry detachments, a materiel testing laboratory, and military mail station.

The headquarters of the forward *front* base consists of the following:

—a base chief;

—deputy chief;
—deputy base chief for political affairs;
—political section;
—planning and organization section;
—transportation organization section;
—loading and unloading section;
—base control section;
—six senior assistants to the base chief in the following areas: armament and ammunition supply, POL, armored supply, motor-tractor supply, food and clothing, and combat equipment.

The signal communications for the forward *front* base is provided by its organic signal company. The forward *front* base depots are capable of maintaining three to four days supplies to support the combat action of the armies. The total weight of such an amount of supplies may reach 7,000 metric tons and more. The capacity of each depot is as follows:

—artillery depot (ammunition): 250 wagons;*
—POL depot: 4,000 cubic meters;
—food depot: up to 25 wagons;*
—armored depot: up to 250 wagons;*
—motor-tractor depot: up to 25 wagons;*
—engineer depot: up to 200 wagons;*
—signal depot: up to 70 wagons;*
—chemical depot: up to 150 wagons;*
—clothing depot: up to 150 wagons;*
—medical depot: 300-350 wagons;*
—topography depot: up to 500 tons.

*[One wagon is the equivalent of 20 tons.]

Each depot can detach a subsidiary branch. The depots are subordinate to the chief of the base and the related chiefs of services at the *front* headquarters. The depots are subordinate to the chief of the forward *front* base in the following matters:

—reception, distribution, and delivery of supplies in accord with the plan of the rear service chief of staff and the chiefs of the related services at the *front* headquarters;

—deployment and movement of the depots;
—allocation of transportation means and work force to the depots;
—organization of loading and unloading;
—security and defense of the depots;
—billeting and communications.

The depots are subordinate to the *front* chiefs of related services in matters concerning security measures, resupply, preparation for the delivery of supplies to the troops, utilization of special equipment, accounting, and organization of expenditure of supplies.

Motor Transport Regiment of the Forward Front *Base*

The motor transport regiment of the forward *front* base is designated to transport the supplies kept in the base, to supply materiel means, conduct evacuation, and carry out other transport tasks in accordance with the plans of the *front* rear services staff. The motor transport regiment can lift 3,300 tons of supplies in one trip.

Independent Service Companies

These companies are appointed to do the loading and unloading, to provide security, traffic regulation, and to support the troops operating in the base. One service company can load and unload up to 2,500 tons in a day.

Independent Rear Service Engineer Company

This company is designated to prepare shelters and covered dispositions for personnel, supplies, and vehicles.

Independent Rear Service Chemical Protection Company

This company is appointed to conduct chemical and radioactive reconnaissance, as well as to eliminate the impact of mass destructive weapons.

Rear* Front *Base

The rear *front* base is designated to hold materiel reserves and ensure their timely supply to the forward *front* bases or their subsidiaries, as well as to the troops operating in the *front* rear services area. The rear *front* base also conducts repair of equipment and large assemblies of equipment belonging to POL, clothing, and food services; supplies bread; reprocesses POL; and provides laundry service for the troops. The rear *front* base is normally deployed on the main railroads, or in the vicinity of ports and harbors.

The rear *front* base is organized with the following elements:

—the base headquarters;
—three artillery ammunition depots, one artillery armament depot, eight POL depots, and one depot for other supplies
—separate transportation battalion;
—separate service battalion;
—separate rear service engineer company;
—separate rear service chemical protection company;
—three mechanical field bakery plants;
—POL supply service equipment maintenance shops;
—maintenance facilities for the equipment of food and clothing services;
—two mobile POL reprocessing stations for motor fuel;
—seven mechanical field laundry detachments;
—unloading and distribution center for *front* transport;
—field military mail service;
—test laboratory.

The headquarters of the rear *front* base is designated for troop control of the base. Its structure and organization are similar to the forward *front* base headquarters, which was discussed in the previous pages. In addition, there is a troop control section of the base with an attached signal platoon.

The rear *front* base depots maintain a large amount of materiel reserves calculated to meet the requirements of several days of combat operations by the *front's* troops; that is approximately 75,000 metric tons. The capacity of various depots are as follows:

—artillery (ammunition) depot: 250 wagons;*
—artillery armaments depots: up to 250 wagons;*
—POL depots: 8,000 cubic meters;
—food depot: up to 350 wagons*;
—armored equipment depot: up to 250 wagons;*
—motor-tractor depot: up to 150 wagons;*
—engineer depot: up to 200 wagons;*
—signal depot: up to 100 wagons;*
—chemical depot: up to 500 wagons;*
—clothing depot: up to 150 wagons;*
—medical depot: up to 800 tons;
—veterinary depot: up to 7 wagons;*
—billeting supplies depot: up to 50 tons.

*[One wagon is the equivalent of 20 tons.]

Each depot can detach two branches. The depots are subordinate to the chief of the rear *front* base and the *front* chiefs of services in the same way as was mentioned in the case of the forward *front* bases.

The permanent and stationary depots located in the *front* rear service area can also be included in the composition of the rear *front* base area.

The Separate Transport Battalion of the Rear Front *Base*

This unit is designated for internal transportation in the base area. In some situations it can also be employed in transportation of supplies to the troops for a short time in accordance with the *front* rear service plan. The battalion can lift in one trip 1,100 tons of supplies.

Separate Service Battalion

This unit is appointed to conduct loading and unloading work, to provide security, traffic regulation, and also to support the troops operating in the base which do not have organic supply forces and means. The battalion can load and unload up to 7,500 tons of cargo in a day, and also can accomplish up to 2,500 cubic meters of field engineering work.

Motor Transport Brigades

Motor transport brigades are employed to transport supplies, to evacuate, and to provide other types of transport services in accordance with the plan of the *front* rear services staff. These brigades provide transportation services between the rear *front* base and the forward *front* bases. A motor transport brigade can lift 6,600 tons of cargo, including 1,440 tons of POL, in one trip. The brigade is organized into three motor transport battalions, one heavy motor transport battalion, two POL transport battalions, a service company, mobile maintenance shops [for maintaining brigade vehicles only], and a medical center.

Road-Commandant Brigade (dorozhno-komendantskaia brigada)

Such brigades are employed to prepare and restore the motor communications routes of the *front* and to provide traffic control and regulation along the routes. The capacity of one road-commandant brigade is 900 km, which means that along this distance it can provide for the repair of the roads as well as traffic control and signal communications. The brigade is organized into the brigade headquarters, three road-commandant battalions, one separate road construction battalion, one independent bridging battalion, one separate special bridging battalion, signal platoon, reconnaissance platoon, chemical protection platoon, repair shop, etc. One to three road construction and commandant's service brigades can be in the composition of the *front* rear services.

Bridge Construction Brigade

The bridge construction brigade is part of a central reserve [reserves of the Supreme High Command], and is employed to reinforce the active operations of the *fronts*. Its mission is to construct crossings over the wide rivers which link motor routes. The brigade is organized into a brigade headquarters, two bridge construction battalions, two independent bridging battalions, two special bridge construction battalions, a bridge and machinery repair base, reconnaissance platoon, signal platoon, and other elements.

Pipeline Brigade

The pipeline brigade is designated to provide POL transport through field pipelines. One to two pipeline brigades may be found in the *front*. Each brigade can establish 600 km of pipeline. The pipeline brigade is organized into four independent pipeline battalions, independent signal battalion, independent motor transport battalion, independent engineer and technical company, helicopter company, medical center and other elements. The brigade, in a 24-hour period, can transport up to 800 tons of fuel by using 100-mm pipelines, and 2,000 tons of fuel by using 150-mm pipelines, for a distance of 75-150 km, and also can construct 65-75 km of pipeline.

Independent Rocket Fuel Transport Battalion

The battalion is organized into three rocket fuel transport companies, mobile motor vehicle maintenance shop, and a signal platoon. The battalion can lift, in one trip, 640 tons of rocket fuel.

Front *Rocket Fuel Depots*

The *front's* rocket fuel depots are designated to hold rocket fuel reserves at the *front* level. Each depot can hold up to 500 cubic meters of rocket fuel.

Forward Front *Hospital Bases*

The forward *front* hospital bases consist of large mobile medical units which are assigned to provide medical support to the *front's* first-echelon armies. They receive casualties and provide specialized medical treatment. There may be as many as six forward *front* hospital bases. The total capacity of forward *front* hospital bases is up to 6,500 beds. The forward *front* hospital base deploys in one, two, or three locations. It can relocate in one trip by utilizing the independent ambulance battalion of the *front* and its organic vehicles. The forward *front* hospital base consists of the following elements:

—the base headquarters;
—two triage hospitals: each one consisting of 500 beds;
—four field multipurpose (polyclinic) hospitals, each with the capacity of 300 beds;
—nine field mobile surgery hospitals of 200 beds each;
—three field mobile internal hospitals (for internal diseases) of 200 beds each.;
—two field mobile psychiatric hospitals of 200 beds each;
—two field mobile epidemic disease hospitals of 200 beds each;
—one hospital for specially dangerous epidemic diseases;
—hospital for lightly wounded of up to 1,000 beds;
—specialized medical assistance (aid) detachment;
—independent medical support battalion for the base itself;
—blood bank station;
—x-ray mobile group;
—mobile oxygen station;
—military mail station.

Rear Front *Hospital Bases*

The rear *front* hospital base consists of large medical units appointed to receive wounded and sick and provide them with specialized medical treatment at the *front* rear service area. There may be two to three rear hospitals bases in a *front*. The total capacity of such bases is up to 20,000 beds, including 5,900 beds in mobile field hospitals and 14,100 in evacuation hospitals. The rear *front* hospital bases are normally deployed in two to three locations on rail heads and are transported by railroad. Their transportation via motor routes requires, in addition to their organic vehicles, 700-800 motor vehicles. The base consists of the following elements:

—three triage hospitals of 500 beds each;
—four field mobile multi-purpose hospitals of 300 beds each;
—nine mobile field surgery hospitals of 200 beds each;
—three mobile field internal hospitals of 200 beds each;
—two mobile field psychiatric hospitals of 200 beds each;

—a mobile field hospital for dangerous epidemic diseases with 200 beds;
—a mobile field special epidemic dangerous diseases hospital with 200 beds;
—five evacuation hospitals of 400 beds each;
—ten evacuation hospitals of 500 beds each;
—six hospitals for lightly wounded of 1,000 beds each;
—separate motorized medical company;
—specialized medical aid detachment;
—separate hospital base support battalion;
—two blood bank stations;
—two mobile oxygen stations;
—mobile x-ray group;
—military mail station.

Separate Ambulance Battalion

Ambulance battalions are designated to evacuate wounded and sick at the *front* and army levels and also to transport the hospital installations to specified areas. Their number is normally dependent on the number of forward *front* hospital bases. An ambulance battalion can carry up to 3,000 wounded and sick in one trip. The battalion is organized into two ambulance companies, hospital transport company, mobile maintenance workshop, medical center, and supply platoon.

Separate Air Ambulance Regiment

The air ambulance regiment is assigned to evacuate critically wounded and sick. It is organized into three squadrons with a total of 32 AN-26. The regiment can airlift in one trip 180 casualties.

Repair and Evacuation Units and Installations

The repair and evacuation units and installations are under command of the chiefs of their related services. They can be listed as follows:

—*front* rocket armaments repair shop;
—*front* artillery repair shop;
—*front* radar repair shop;
—*front* antiaircraft artillery repair shop;
—*front* air defense rocket repair shop;
—separate artillery armament evacuation battalion;
—separate tank repair battalion;
—separate tank recovery battalion;
—mobile tank repair shop;
—mobile repair plant to repair large tank assemblies;
—separate armored vehicles evacuation battalion;
—separate recovery, repair and restoration battalion;
—separate battalion for recovery, repair, and restoration of the main assemblies of motor vehicles;
—separate battalion for recovery, repair, and restoration of the main assemblies of tracked vehicles;
—separate motor-tractor vehicle evacuation battalion;
—separate engineer vehicle repair battalion;
—separate repair battalion for large assemblies of engineer vehicles;
—signal repair base;
—mobile signal repair shop.

Railroad Brigade

Railroad brigades are designated to establish or restore *front* railroads. A railroad brigade is organized into a brigade headquarters, two railroad construction battalions, three railroad bridge construction battalions, separate mechanized railroad battalion, separate railroad signal communications battalion, separate railroad technical battalion, separate motor transport battalion, separate wood preparation battalion, separate railroad exploitation company, technical reconnaissance company, chemical protection company, etc.

Independent Railroad Exploitation Regiment

The regiment is intended for the exploitation [use] of individual areas of the *front* railroads. It is organized into two

movement battalions, one steam engine battalion, a service battalion, and a signal company.

Independent Railroad Bridge Construction Regiment

The railroad bridge construction regiment is assigned to restore large railroad bridges in support of *front* operations. The regiment is organized into two bridge construction battalions, one technical battalion, and a materiel preparation company.

Independent Signal Regiment of the Front *Rear Services*

The signal regiment organic to the *front* rear services establishes signal communications between the *front* rear command posts and the rear command posts of the armies and large units, as well as with large units and units of the *front* rear services. The regiment has two signal battalions.

Rear Service Security Division

The rear service security division, employed at the *front* level, has the following missions:

—establishing the security and defense of vital installations along the supply routes and of the main targets (depots);
—fighting enemy infiltration groups in the rear service area;
—conducting reconnaissance and inspection of terrain and built-up areas, and searching for and recovering weapons, ammunition, and other military property from local inhabitants;
—maintaining law and order in the rear area;
—preventing the local population from trespassing into military off-limits areas, and extending assistance to recover disabled and stranded military vehicles;
—organization of prisoner [of war] camps and guarding the camps.

The division is organized into the following elements:

—division headquarters;

—three to four security regiments;
—independent reserve battalion;
—independent convoy guard battalion;
—independent signal company;
—independent engineer company;
—independent training company;
—chemical protection platoon;
—prisoner [of war] centers;
—other elements.

IV. The Impact of Nuclear Weapons and the Characteristics of Troop Combat Armament and Equipment Upon the Composition and Organization of Rear Service Support in Front *Offensive Operations*

There are a number of factors affecting the structure and operations of rear services in support of the *front* offensive operation. Among these are the introduction of nuclear weapons and new equipment. They can be listed as follows:

—the development of mobility and maneuverability of the rear services, reflected in the fact that the forward *front* base, the forward *front* hospital bases, and other elements are organized as mobile formations;
—the growth and increase of the requirements for materiel means and mobile reserves which must be supplied in a timely and rapid manner;
—the increase of likely casualties and losses in personnel, combat equipment and supplies due to the employment of mass-destructive means and other modern weapons. This has increased the volume of rear service support requirements widening the capabilities of rear service units and installations;
—the need to maintain the rear services secured, viable, and active by dispersion, concealment, covering the rear service support units and supplies, and organization of technical coverage of supply routes;

—the need constantly to maintain reserves of rear service forces and means in order to restore the combat capability of troops and rear services when it becomes necessary;
—the introduction of new principles and methods of action concerning the grouping and operations of the rear services and the establishment of new rear services units (*front* forward base, *front* forward hospital bases, ambulance motor transportation battalion, medical support detachments, rear services engineer units, etc.);
—the requirements for continuous and reliable troop control of the rear services which have resulted in the organization of new rear services signal communications units;
—the requirement that the organization of rear services support should provide for the combat actions of the troops with or without the employment of nuclear weapons.

V. Rear Services Support

General Principles

Organization of rear service support is the process of planning, and taking measures concerning the preparation, deployment, and survival of the rear services, and providing thorough rear services support for the troops and steady and reliable rear service troop control. The fundamentals of organizing of rear service support for *front's* offensive operations should be based on the following principles:

—the organization of rear service support should comply with the plan of conducting the operations and with the missions of the troops;
—the grouping of forces and means of the rear services should be capable of supporting the combat operations of the troops under all conditions, with or without the employment of nuclear weapons;
—the main efforts of the rear service should be concentrated on supporting that grouping of troops which is assigned to accomplish the main mission;

—the sustainability of troop groupings should be ensured in terms of rear service support;
—in operational formations of the Ground Forces, rear service support should be organized in the interest of all troops participating with them in the operation.

The rear is the grouping of rear service forces and means assigned to conduct rear service support for the troops in the operation.

Deployment

The deployment of the *front* rear service echelon is conducted in the framework of plans prepared in advance. It includes the transition of the rear services from peacetime to wartime status through mobilization of rear services elements. This is normally carried out concurrently with the deployment of the combat forces organic to the *front*. The process includes upgrading all rear service echelons to a level of full combat readiness, mobilization of rear services, movement of additional rear service support units, large units, installations, and materiel reserves to the TSMA and the deployment of the rear service echelon in accordance with the requirements set for the logistic support of combat actions in specific situations.

The operational organization of the rear services is the grouping of rear service forces and means into a structure organized to provide rear service support to the troops. In *front* offensive operations, the grouping of rear service forces and means is established in echelons, within the limits of the rear area along the main directions of troop actions.

The *front's* forward rear service base is relocated once every three days, when the speed of attack is 40-60 kilometers per day. This is so that its distance from the army's mobile base should not exceed 150 km, which is a half-day march by the *front's* transport vehicles. *Front* rear services deploy and operate in the *front's* rear area. The boundaries of the *front* rear area are defined as follows: at the flanks, by the boundaries with adjacent *fronts*; at the rear, by the rear boundary of the *front*

specified in the directive of the commander-in-chief; and forward by the rear boundaries of armies' mobile bases.

In the staging area for the attack, the depth of the *front's* rear area reaches up to 300-400 km, while in the course of the offensive operations it may increase to 800-900 km or more. The *front* rear service elements deploy in echelons throughout the depth of the rear service area on the main directions of combat operations. Their main efforts are allocated to support troops conducting the main attack.

Depending on their missions, mobility, and method of operation, *front* rear service units, large units, and installations are grouped into two echelons, i.e., the forward echelon and the second-echelon of the *front's* rear services.

Forward Echelon of Rear Services

The forward echelon of the *front's* rear services is composed of the following elements:

—forward *front* bases;
—rocket engineering units and rocket fuel depots;
—forward *front* hospital bases;
—pipeline units and large units;
—*front* mobile repair units and installations, etc.

In the staging area for the attack the units and installations included in *front* rear service forward echelon are grouped in accordance with the directions of the first-echelon armies' operations. If the available rear service forces and means are not sufficient, a single grouping is established to support two adjacent armies.

The forward *front* bases are deployed close to the railroads at a distance of 80-100 km from the mobile army bases. To ensure the dispersed deployment of the forward *front* base, an area of 150 sq km is required for its deployment. When the *front* has only one forward base, it is recommended that it deploy in two locations. The bulk of its elements should deploy to support the troops operating in the direction of the main attack and a branch

of the base should deploy to support the troops conducting supporting attacks.

The *front's* rocket technical units are deployed in accordance with the grouping of rocket troops. Usually the mobile rocket technical bases of the *front* deploy at the beginning of the operation at a distance of 30-40 km from the location of the *front's* rocket brigade, while the separate rocket park battalion deploys 10-15 km apart from the unloading stations, ports, and materiel support airfields. The rocket fuel depots and rocket fuel transport units deploy close to the unloading stations and materiel support airfields. Branches of rocket fuel depots are moved forward to be at a distance of not more than 50-70 km from rocket engineering technical bases.

The deployment of medical installations at the beginning of the operation can be as follows:

—at a distance of 50-70 km from the front line, groups of hospitals organic to the rear *front* hospital bases are deployed and the local hospitals of the area are also placed under their command;

—the forward *front* hospital bases move within the armies' attack zones in a manner to be prepared to deploy in the course of the operation. In the absence of rear *front* hospital bases, the forward *front* hospital bases are deployed in advance;

—the separate medical detachments deploy close to the first-echelon troops as well as near the *front's* reserves. This is done in situations when eliminating the impact of enemy nuclear attacks may become necessary.

Under all circumstances, at the beginning of the operation, the number of medical installations deployed in the area of each first-echelon army is calculated to the able to deal with the treatment of all casualties received during the first two or three days of the operation.

The pipeline brigades are deployed to provide for the flow of POL from the permanent POL depots as well as from the *front's* POL depots to the troops operating in the main grouping of the *front* elements. If two pipeline brigades are available in the

front, a number of pipelines can be established on one or two directions of the attack. The main field pipelines are also used to transport aviation fuel to the airfields, to transport POL across rivers, to bypass the destruction of railroad centers, and also to disperse POL reserves from large depots. The *front's* mobile repair units move into army areas at the beginning of the operation or they are attached to the armies.

Front *Rear Service Second-Echelon*

The *front's* rear service second-echelon is deployed further to the rear. It is composed of the following elements:

—rear *front* bases;
—rear *front* hospital base;
—repair shops and other units and installations deployed to the rear of the *front* rear areas.

The depots of the rear *front* base are deployed in echelons along the railroads. The stationary depots are located in the *front's* rear area with their materiel reserves subordinated to the rear *front* base.

The order of deployment of *front* bases depends on their number and the time of their arrival in the *front*. Moreover, the locations of their deployment should be in accordance with the locations of deployment of forward *front* bases and their branches. For example, if at the beginning of the operation, there is only one rear *front* base available, then its recommended breakdown should allow its main part to be deployed on the main rail head and a branch of the base to be allocated to another direction. In addition, a second branch of the base is kept in reserve, for temporary deployment in the loading area or ready to move to an important railroad extension area.

If two rear *front* bases are available in the *front*, then each one deploys on one or two railroad lines. In this case, a branch of the rear *front* base should deploy in an area 120-150 km from the forward edge of the battle area (*perednyi krai*), while a second branch should be kept in reserve to be moved during the operation.

As the experience of field exercises indicates, it is better that the rear *front* hospital bases deploy in two to three locations on the main railroad line. Depending on their missions and the availability of bases, their distance from the forward edge of battle area can be from 50-70 km up to 200-300 km.

The repair shops are deployed close to the rear *front* bases and local repair facilities are also used if possible. Rear services units and installations arriving during the operation are deployed in appropriate areas. Depending on their missions, they should be deployed on major railroad links or they should be included in the composition of the first-echelon of the *front's* rear services and deployed accordingly.

Therefore, in the staging area for the attack, the rear service units and installations with less mobility—the operation of which is closely dependent on, and connected with, railroad movement—should be deployed first, while the mobile units and installations should be kept prepared to move and follow attacking troops during the operation. For this purpose they should stay close to the armies which they support.

Redeployment of Rear Service Bases

The movement and relocation of *front* rear service large units, units, and installations in the course of the operation is dependent on the rate of advance of attacking elements and the situation.

In principle, the distance of the forward echelon of *front* rear services from the armies' rear service large units, units, and installations should not exceed half-a-day's march by transport means, which is about 150 km. This will ensure daily resupply of the army's exhausted materiel reserves and also will facilitate timely medical aid to the wounded and sick and their evacuation. It will also ensure timely recovery, repair, and restoration of damaged vehicles.

In such cases, army mobile bases will not be able to follow closely behind the attacking elements, and may be left behind at a distance of 100-200 km. Therefore the armies' transport means may be employed to move materiel reserves from

forward *front* bases, and troops transport means may be used to move materiel from the army's mobile bases.

According to the above-mentioned principle, the rear services large units, units, and installations included in the composition of the *front's* first rear service echelon should relocate in the following manner:

—Forward *front* bases should follow the first-echelon armies. The distance between the forward *front* bases and their branches and the army's mobile base should not exceed 150 km. Therefore when the rate of advance is 45-50 km a day, the forward *front* bases and their branches should move once every three days. When the rate of advance is 80-100 km per day, they should move once a day or once every two days. The forward *front* bases may relocate in their entire strength, or they may conduct alternate movement by moving their branches first and following them with the bulk of the base. Frequent movement of forward *front* bases is desirable, but this may decrease its capabilities and will require a large amount of transport means in its movement.

—The *front's* mobile rocket technical bases follow the attacking troops in bounds of 150-200 km, and the independent rocket park battalions conduct relocation in accordance with the extension and restoration of railroads and the establishment of new materiel support airfields. The rocket fuel depots and their branches usually move together with the mobile rocket technical bases.

—The forward *front* hospital bases move to the massive casualty areas and deploy at a distance of 40-50 km from the forward edge of battle area. Mobile repair units move to the areas where a large number of damaged vehicles are collected.

The rear service large units, units, and installations included in the *front* rear service second-echelon move in accordance with the preparation of railroad lines. The rear *front* base, during the operation, detaches its branches to areas where railroad

construction is completed, and sometimes it moves on motor routes in the absence of railroads. In such cases it should be provided with additional motor transport means. All elements of the rear *front* base completely relocate only at the end of the *front's* offensive operation.

VI. Requirements in the Organization and Content of the Rear Service Support Plan

The plan of rear service support for *front* forces is a part of the *front's* operations plan. Therefore, the requirements pertaining to any troop control document are also applicable to the plan of rear service support. The plan should be concise and clear. The conciseness of the plan is achieved by including only the most important matters concerning the organization of rear service support. The clarity of the plan is achieved by precisely reflecting the special symbols of the rear services, of supply routes, and transport means, and also by providing the most effective data tables in the plan. The plan of rear service support should be organized in complete conformity with the concept of the operations and the missions of the troops.

The content of the rear service support plan includes all matters concerning rear service support handled by the deputy *front* commander for rear services and the service chiefs. The plan also includes issues of supplying the troops with ammunition, vehicles, and technical equipment, since the deputy *front* commander for rear services is responsible for their timely supply. The supply of the troops with rockets, their movement by specialized transportation means, and the technical support of armament, armored vehicle support, motor-tractor, and other equipment support are reflected in other plans prepared by the chiefs of the *front's* services who are not subordinate to the deputy *front* commander for rear service support. The *front's* rear service support plan in an offensive operation normally reflects the following:

—the basic missions of *front* rear services;

—the composition of *front* rear services including the large units, units, and installations of the rear services planned to support the offensive operation;
—the deployment of *front* rear services during the preparation of the operations and their movement during the course of the operation;
—the *front* communications routes, their development, restoration and maintenance during the operation;
—materiel support of *front* forces;
—medical support of *front* forces;
—protection, security, and defense of the *front* rear;
—organization of control of the *front* rear services;
—other matters.

In planning rear service support the following principles must be observed:

—the plan should reflect the future volume of rear service actions in planned operations in terms of their actual capabilities;
—a unified plan should be worked out for operations with or without the employment of nuclear weapons;
—the plan is worked out in accordance with the *front's* missions. Rear service support during the accomplishment of the immediate mission, particularly for the first three days of operation, is reflected in more detail;
—the *front* rear service support plan for offensive operations reflects only the most important and basic matters, and does not include all tasks of the rear services, which are included in other plans, such as the plan of dispersion of materiel reserves, materiel support plan, rear service support of airborne and seaborne assault operations, and the plan of rear service regrouping;
—the plan should be worked out in a short time. While in peacetime sufficient time is available to prepare the plan, in the beginning of the war, as well as in the course of the war, time is normally limited, and therefore the rear service support plan should be worked out in a short time;
—the tables of the rear service support plan should be worked out in a format which can be used in computers.

The *front* rear service support plan is prepared on a map with written instructions. It can be prepared also in written form with a map annex. The plan is signed by the chief of the *front* rear services and his chief of staff. It is coordinated with the *front's* chief of staff and approved by the *front* commander.

The initial data in preparing the plan of rear services support are the following:

—the rear service directive of the Armed Forces Chief of the General Staff;
—the decision of the *front* commander for offensive operations and his instructions on rear service support;
—the decision of the deputy *front* commander for rear services on the organization of the rear services support for the offensive operation;
—the information on the size, number, composition, and status of the forces;
—information about the composition, deployment, mobilization, status, and location of operational rear services.

The directives of the Armed Forces General Staff constitute the basis for planning and, without waiting for the other information, the preparations for planning should begin once the directive is received. The commander's decision and his instructions on rear services support are supplemented by other initial data in planning rear service support for the *front's* offensive operation.

VII. Front *Rear Service Principles*

General Principles of Supply

The following are general principles of supply:

—the forces will receive sufficient materiel every day in order to maintain their prescribed norms;
—priority of supply goes to those forces which are successful;
—transport vehicles at all echelons will be used to their maximum capacity;

—forces in the second-echelon will supply themselves through the use of their organic vehicles;
—in the event of a rapid advance or a successful airborne operation, materiel will be moved by air and special air fields will be prepared to receive them;
—transloading from one vehicle to another should be avoided.

Rules Governing Movement of Supplies and Types of Transport Vehicles

Up to the Rear *Front* Base:

—75 percent by rail;
—15 percent by motor vehicle;
—up to 10 percent by pipeline.

From Rear *Front* Base to the *front* Forward Base:

—up to 15 percent by rail;
—75 percent by motor vehicles;
—10 percent by pipeline;
—5 percent by air.

From the Forward *Front* Base to the Army Mobile Base:

—90 percent moved by motor vehicles;
—5 percent by air.

The planning for materiel support is conducted by the staff of the rear services in conjunction with individual services, such as transport, tracked vehicle, rations, clothing, etc. The daily ranges of transport vehicles are:

—200 km for transport vehicles of the troops [i.e., tactical];
—250 km for transport vehicles of the army;
—300 km for transport vehicles of *front*.

Rear Services Management

Rear services management includes planning and a series of measures concerning readiness, deployment, operation of the

rear services, comprehensive support of the forces and firm troop control of the rear services. The main principles for managing rear service support in a *front* offensive operation will be based on the following fundamentals:

—management of rear service support for the forces must comply with the overall planning of the conduct of the operation and mission of the forces;
—the deployment of rear service forces and means should be capable of supporting combat activities in all circumstances, in both conventional and nuclear environments;
—the principal emphasis of the rear services should be oriented towards supporting those forces carrying out the main mission;
—there must be assurance that from the rear service point-of-view the highest degree of initiative will be exercised in behalf of the force groupings;
—the management of rear service means should be carried out in such a manner that all the units participating in a given operation profit from such support.

Establishment of the Rear Services in an Offensive Operation and Methods of Movement

Establishing the rear services includes a series of measures with respect to the distribution and deployment of rear service forces and means. It also includes establishing an environment favorable to the uninterrupted flow of materiel to the forces within the framework of the operation. The action of establishing rear services comprises the following:

—preparation of rear service large units, units, and installations for accomplishing their mission;
—positioning and movement of rear service units and installations;
—measures for protection from the effects of weapons of mass destruction;
—protection and physical security of rear area targets;
—establishing the rear services is based on the commander's decision within the specific operation, with consideration

given to the existing situation. Tailoring rear services is based on the grouping of forces.

VIII. Preparation, Nature, and Usage of Communications Routes in a Front *Offensive Operation and Mission and Capabilities of the Road-Commandant Brigade*

Communications routes are one of the most important elements in an offensive operation. In offensive operations the *front* will use all available routes (railroads, waterways, airways, roads, pipelines).

In the *front* area, there should always be available two to three frontal and two to three lateral (*rocade*) railroads with a capability of handling 70 round trip trains (*para poyezdov*) within 24 hours. In the course of an operation, one to two railheads will be established, which should increase the capacity by up to 30 round-trip trains. The speed of laying a railroad with two brigades may be up to 40-45 km within 24 hours. In case of total or massive destruction, this figure should be cut in half to 20-22 km per 24 hours.

All types of access routes will be used in the course of an operation, as well as all types of transport vehicles such as railways, highways, waterways, and pipelines. Two to three *rocade* rail lines and two to three railroads perpendicular to the forward edge of battle area will be laid. Their capacity will be approximately 60-70 round-trip trains. One-to-two railheads will be established with a capacity of 20 to 30 round-trip trains. The above will depend upon the availability of railroad brigades at *front*. Two-to-three rear service distribution stations (*raspredelitel'nyye stantsii*) will be established and rear service distribution ports will be designated on the waterways. For the movement of the forces and for the transportation of supplies by motor vehicles, *front* military motor vehicle roads will be designated leading from *front* bases to army bases. The capabilities of the railroad brigades include 20-25 km of construction within 24-hours or 9 km under conditions of massive destruction. Two to three distribution stations as well as two in reserve may be allocated per army. Also, per army, the following unloading

stations may be allocated: one per division; two to three per army mobile base. Temporary unloading sites number one-to-two per *front*. For waterways each front may have one distribution port, and for the field army one unloading point will be allocated.

Front military motor vehicle roads: Will connect *front* bases with their sections and their sections with the army mobile bases. One military motor vehicle road will be established behind every first-echelon army. Its capability should be up to 10,000 motor vehicles per 24-hours.

Field main pipelines: Bring in POL from permanent depots and *front* depots to the main concentration of *front* forces. They are laid in the direction of the main attack.

Materiel support airfields: Are organized for providing materiel means by air. There will be seven or eight such airfields to provide materiel support per *front*. Arrangements will be made to exploit all kinds of transport completely. For this purpose, a network of supply routes will be established and technical cover provided.

The road-commandant brigade: The brigade consists of three road-commandant battalions, one road construction battalion, one bridging battalion and one special bridging battalion. Its mission is to prepare, maintain and restore communications routes of the *front*, and also to control all traffic. The brigade is capable of the following:

—coverage of routes within a 900 km radius;
—it can deploy three complete sets of service stations and 25 dispatch centers;
—it can establish 160 traffic control points;
—it is capable of constructing underwater bridges 110 m long, with a carrying capacity of 16 tons;
—it can perform evacuation work of up to 4,500 cubic meters;
—it can repair roads up to 90 km;
—it can repair pavement up to 10 km.

IX. Establishing the Front *Rear Services in a* Front *Defensive Operation*

The establishment of the *front* rear services depends upon the conditions under which the defensive posture is assumed, types of weapons to be employed, mission of the *front* and its composition. The *front* rear area will be designated for the deployment of the *front* rear services. Its size is not prescribed and may extend to the depth of up to 500 km. The possibilities of initiating offensive action by *front* forces without delay will be taken into consideration. The preparation of rear service units and installations for their mission of supporting the forces in an operation consists of the following: providing rear service units and installations with personnel replacements and with technical means and materiel, the conduct of training (combat, political, and special), and the preparation and readiness of rear service technical units for the accomplishment of their mission.

Rear Service Support of Front *Forces in a Defensive Situation*

The governing principles of rear service management of *front* forces in a defensive operation and management of rear services depend on the circumstances under which the defensive posture had to be assumed by the forces and upon the types of weapons used by the opposing forces. In comparison with an offensive situation, the composition of rear service forces in *front* defense is rather limited. If, in the course of operations, the *front* is forced to assume a defensive posture, it will probably be the result of having suffered numerous casualties. Also, the levels of materiel holding will be low. Hospitals will be filled with casualties. In a case where the *front* goes over to defensive positions prepared in advance, rear service forces, according to plan, would deploy rapidly and the levels of supply would be high.

Supply Management of Air Defense Surface-to-Air Rockets

Supply of surface-to-air rockets for *front* air defense forces is carried out with due regard for the number of rockets allocated

for a specific planned operation. The requirement is calculated on the basis of the operational mission and the necessary replenishment of supply levels for future actions after the end of the planned operation. The distribution of rockets allocated for a specific operation is carried out by the *front* air defense chief. The number of rockets varies in accordance with enemy activities and the importance of a given direction. At the beginning of the operation, all air defense units should have their maximum number of rockets on hand. During the preparatory stage of an operation, the required documents designating the levels of expenditure of the various types of rockets are issued. Directives are published specifying the rates of replacement, locations for air defense rocket depots, methods of movement, availability, issue, distribution and the time limits on their readiness are specified. The chief of air defense, in conjunction with the chief of artillery armament will manage the flow of air defense materiel. The chief of air defense will provide the chief of artillery armament with the following information:

—number of rocket launch pads within *front*;
—[required] rocket supply to launchers;
—the location and sites of the technical battalions of air defense rocket regiments.

In addition to the above, the following matters must be coordinated:

—methods of rocket issue;
—times of delivery;
—the listing and number of rockets to be issued;
—directions for supply vehicle movements;
—arrangement for relocation, etc.

Organizing Transport for Materiel Means in Front *Offensive Operations*

In order to ensure a more efficient organization of supply in support of *front* operational formation's, it is mandatory that reserves of materiel means are constantly delivered close to the armies. This means that forward *front* bases are constantly

moved forward. In this case the armies transport their own materiel means, or materiel may be delivered to them by *front* transport means.

The main principle of supply is that the *front's* chief of rear services carries out materiel support for the armies. The higher echelon is responsible for the support of lower echelons. This support must be conducted constantly. The continuity of supply is achieved only through the total employment of all types of transport means. The total volume of requisite transportation in *front* offensive operations using nuclear weapons is up to 300,000 tons, while in operations not using nuclear weapons it increases up to 450,000 tons, one-third of which includes supplies for the air army, air defense forces, reserves, and *front* rear services. The volume of materiel required for first-echelon armies is up to 20,000 tons per day.

[X. Additional Material on Rear Service Support]

[The following information was taught at the General Staff Academy but was not included in the lecture itself.]

Requirements for Materiel Means—Their Norms, Content, and Echelonment in Front *Offensive Operations*

The requirement of material means, their content, and echelonment in *front* offensive operations depends on the characteristics of the operation, *front* missions, depth and duration of the operation, and the conditions of operation with or without the use of nuclear weapons. In the operation, requirement of material means equals expenditure of material means along with establishment of required material reserves at the end of the operation. The requirement for material means in *front* offensive operations reaches 700,000 tons which breaks down as follows:

—artillery and mortar ammunition 7.5-9.0 units of fire;
—tank ammunition 7.5-8.0 units of fire;
—air defense ammunition 8.5-9.5 units of fire;

—infantry ammunition 4-4.5 units of fire;
—air ammunition 22-23 units of fire;
—gasoline 8-9 refills;
—diesel 11-13 refills;
—aviation POL 26-27 refills;
—foodstuff 30 daily rations.

Organization of Medical Support in* Front *Offensive Operations

Medical support is the organization and conduct of medical treatment and evacuation and issues related to hygiene and anti-epidemic measures. The main principle of medical support rests on bringing medical installations as close to massive personnel casualty areas as possible. In other words medical support must be conducted in the area of casualties. During the organization of medical support it is mandatory that probable personnel casualties, types of diseases, and the capability of medical installations are taken into account.

Field exercises and military studies indicate that personnel casualties during a *front* offensive operation using nuclear weapons will be 35-40 percent (average - 2-2.6 percent per day). The following is a breakdown of casualties in terms of the types of weapons used:

—nuclear weapons 16-18 percent;
—firearms 6-7 percent;
—chemical weapons 5-6 percent;
—biological weapons 1.5-2 percent;
—disease 1.5-2 percent;
—other weapons 4-5 percent.

A large number of casualties are expected during the initial nuclear strike. These casualties will account for 30 percent of all casualties. During nuclear mass and group strikes, personnel casualties may reach up to 4 percent per day. In operations conducted without nuclear weapons the overall casualties during *front* offensive operations will be 12-13.5 percent (an average of 0.8-0.9).

On the basis of such numbers of casualties 120,000-130,000 hospital beds are needed including 40,000-50,000 beds at the

beginning of the operation. Such large numbers of hospital beds are not available in the *front*. Therefore, each available bed is expanded into two beds to meet the requirements of likely casualties.

Wounded are evacuated from separate medical detachments and divisional medical battalions to *front* hospital bases. The evacuation is conducted by army and *front* ambulances and in some cases by air transport means.

The *front's* hospital bases must deploy in such a way that the distance covered by evacuation vehicles carrying wounded and sick, is not more than 120-150 km, allowing the ambulances to move them to medical bases in five-six hours.

Air Army Rear Services

The rear service of the *front's* air army is managed by the deputy air army commander for rear services. The air army's rear service is composed of the following elements:

—headquarters of air army's rear services;
—air army bases (one to two in the air army);
—aviation technical support regiments (the number of which depends on the number of aviation divisions in the air army).

Each regiment is composed of three to four separate aviation technical support battalions (OBATO), as follows:

—separate aviation technical support battalions (the number of which depends on the number of separate aviation regiments in the air army);
—separate aviation technical support companies (the number of such companies in the air army is the same as the number of separate aviation squadrons in the air army).

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CHAPTER SIX

Army Offensive Operations

I. General: The Role of the Combined Arms Army in Offensive Operations of the Front

The Aim of Offensive Operations and the Missions of the Army

The offensive operation of the army is normally a part of the offensive operation of the *front*. In some situations, when operating on separate directions, the army may conduct independent offensive operations.

When executing missions in support of a *front* offensive operation, the army may conduct one or more operations. In exceptional cases, when the depth of a *front* offensive operation is not great and the enemy has no strong reserves at his disposal, the army may conduct only one offensive operation to achieve the goals of the *front* offensive. A second-echelon army of the *front* conducts only one offensive operation.

The army executes its missions in the *front's* offensive operation in close coordination with adjacent armies, the [*front*] air army, large units and units of rocket and artillery troops, air defense troops, operational airborne and seaborne assault forces,

and other elements of the *front*. When operating on maritime directions, the army will coordinate its operation with the naval units operating from the sea.

The role and place of the army in the *front's* offensive operation is determined by missions envisaged in the operational concept of the *front* commander. In the *front's* formation for operations (*boevoe postroenie*), the combined arms army and the tank army may operate: in either first or second-echelon, on the main direction or other directions, in the center of *front* forces, or on the flanks of the main grouping of *front* forces.

The first-echelon armies constitute the bulk of *front* forces. The successful accomplishment of their missions is essential to achieving the aim set for the offensive operation of the *front*. First-echelon armies have several missions:

—to destroy the opposing enemy groupings, as well as their nuclear delivery means;
—to exploit the offensive to the depth of the *front's* immediate mission, and then to the limits of the *front's* offensive mission;
—to seize vital areas;
—to reinforce the objectives once achieved.

The combined arms army may act as part of the main attack of the *front* or in other, secondary directions of attack. The tank army is normally employed on the main offensive direction as part of the main strike forces of the *front*.

Armies operating on the main direction of attack of the *front* are reinforced by supporting units and equipment. Also, the bulk of nuclear weapons and *front* air strikes are concentrated on the offensive directions. Moreover, the employment of operational airborne assault forces, large river crossing units, and the commitment of reserves of the *front* are planned in the areas of operation. Consequently, the first-echelon armies operating on the main strike direction of the *front* are capable of destroying the confronting enemy; advancing rapidly into the enemy's depth; and, usually, operating independently of the other first-echelon armies of the *front*.

The combined arms army and the tank army operating in the second-echelon of the *front* may exploit the offensive along the main strike direction and sometimes act offensively along a new direction. The offensive commitment of the second-echelon is normally made after the accomplishment of the *front's* immediate mission, but sometimes this commitment may be made earlier.

The types of weapons and the means of destruction employed in the offensive operation affect to a large degree the role of the army in the accomplishment of *front* missions. The *front* offensive operation could be conducted with or without the employment of nuclear weapons. At the beginning of offensive operations conventional weapons only may be employed, but later on, in a specific phase, nuclear weapons may be employed. The offensive operation of the *front* may be conducted from beginning to end without the employment of nuclear weapons, while the permanent danger of the use of nuclear weapons by the enemy always exists. In each case the role of the army in the destruction of the enemy and the achievement of the *front* offensive operation's aim would be different.

In an offensive operation of the *front* with the employment of nuclear weapons, the combined arms army and the tank army should accomplish the destruction of the main enemy groupings, mop up the enemy forces that survived strategic and *front* nuclear strikes, and also destroy other enemy groupings to the depth, which have not been hit by these strikes. The armies accomplish these missions by widely exploiting the use of nuclear weapons and by the combat action of their motorized rifle and tank large units and units.

In *front* offensive operations conducted without the employment of nuclear weapons the armies with their reinforcements and supporting arms (the large units of the air army of the *front*) are required to destroy all the enemy units in their entire operational depth inside the allotted areas specified for each army's offensive operation, and to seize vital and important areas located inside the army's specified boundaries. The army will

play an important role in repelling the surprise attacks of the enemy as well as in repelling the counterstrikes of superior enemy forces. The army can play this vital role because it has sufficient forces and means and usually accomplishes its mission in close cooperation with National Air Defense Forces, aviation forces, and, when operating in naval areas, with the naval forces.

When operating in maritime areas, the role of the army would be determined by the importance of that area, the nature and character of the army's mission to destroy the coastal groupings of the enemy, and the occupation of peninsulas, coastal islands, ports, naval military bases, and other important objectives along the seashore, and the conditions of cooperation with the naval forces.

The role and place of each army in the course of *front* offensive operations may be changed by alterations made to the mission of the *front* and to the operational situation, particularly when the main effort of the *front* is shifted from one direction to another. The aim of the army's operation and the missions of the army are determined by the *front* commander in close consideration of the following:

—operational concept of the *front* related to the missions that strategic and *front*al forces will accomplish in that army's area;
—*front's* capabilities to reinforce and support the army;
—operational status of units and the morale and political level of the personnel;
—missions and conditions of cooperation with adjacent armies and operational formations of other Services of the Armed Forces;
—composition of enemy groupings and character of their possible actions;
—materiel reserves at the beginning of the operation and the possibilities of further materiel in the course of combat operations;
—geographic, physical, and economic characteristics of the TSMA and the characteristics of specific areas where

combat operations either will take place, or which should be occupied during the offensive operations.

The army's aim in offensive operations and the army missions are determined directly by the concept of the operation as it is described in the *front* commander's decision. Components include:

—aim of the operation and specific missions;
—composition of forces in the operation;
—character of coordination with adjacent units and airborne units;
—operational formations of other Services of the Armed Forces;
—number of nuclear and chemical rounds and the quantities of conventional ammunition and other information.

The aim of the operation is the final result the army should achieve by the end of the operation. The aim of the operation is normally the destruction of a specific enemy grouping, including its nuclear weapons, and the seizure of areas and terrain features that facilitate the accomplishment of one of the *front's* missions on a specific operational direction and the creation of favorable conditions for the accomplishment of subsequent operations.

In a *front* offensive operation carried out in a normal TSMA [e.g., European type terrain], which could be 600-800 km or more in depth, the first-echelon army most often conducts two operations. The first army operation would be continued up to the depth of the immediate mission of the *front*; the second operation up to the depth of the subsequent mission of the *front*.

The aims of the first and second operations of the army emerge from the nature of the immediate and subsequent missions of the *front* offensive operation as well as the character of the areas where the army will conduct its operation. The immediate mission of the *front* in offensive operations is to destroy the enemy's nuclear weapons and the main forces of his army group and OTAK Joint Tactical Air Command forces, to seize vital areas and terrain features, depriving the enemy of the basing areas suitable for aviation concentrations and rocket

installations, disintegrate the operational stability of the enemy's defense, and finally, to facilitate the successful continuation of the offensive for friendly formations. The depth of the immediate mission of the *front* is 250-350 km and more.

The subsequent operation of the army is usually executed in order to destroy newly located enemy nuclear weapons systems and enemy reserves located in depth, in close cooperation with the rocket and aviation means and other armies, and to seize vital terrain features and areas that facilitate the accomplishment of *front's* subsequent mission on that direction. The depth of the army's subsequent operation is the same as the depth of the *front's* subsequent mission in the offensive operation, i.e., 350-500 km or more. When executing offensive operations in coastal areas and in special conditions of a TSMA, the depth of the army operation may be reduced. In such areas the execution of special missions are required, such as the occupation of peninsular regions, islands, coastal areas, the consolidation of gains, and the organization of coastal defense. In mountainous areas and regions with many rivers and marshes, the enemy will have more advantages especially in organizing a strong defense, creating great obstructions in a short period of time, and inundating the ground with water. In mountainous areas, special importance is given to the destruction of separate enemy groupings and to the main directions of advance that lead to the basic land [line of] communication centers, main road junctions, mountain passes, defiles and passages through impassable terrain, since the seizure of such features providing access to valleys and plains. These features normally set the aim of an army offensive operation. In deserts and steppes, the depth of the army operation may increase to some extent. To facilitate planning and coordination among army forces, the army is assigned three main missions: participation in the initial nuclear strike of the *front*, an immediate mission, and a subsequent mission. Further, a first-day mission and missions concerning the repulse of an enemy attack could also be assigned to the army.

At present, the army is reinforced with a variety of means for inflicting heavy losses on the enemy with or without the employment of nuclear weapons. For each type of combat

environment [nuclear or non-nuclear], different forms of operations will be conducted. However, the aim of the army operation and its immediate and subsequent missions are identical in nuclear and non-nuclear environments. This illustrates the fact that it is very difficult to determine in advance what types of weapons would be employed as the operation (especially the initial operation) begins. What is certain is that there will be a specific grouping of enemy forces in the army's area of operation, whose destruction is intended. There are also terrain features and objectives that should be seized by the army in the course of offensive operation, regardless of the types of weapons which are going to be used.

The army's mission during the initial nuclear strike of the *front* is to destroy enemy nuclear delivery means and to inflict heavy casualties on him, especially on tank groupings, command posts, and vital targets in enemy rear areas that are located within the limits of the army's offensive operation. The army rocket brigade and the rocket battalions of first-echelon divisions are employed for the execution of this mission.

The immediate mission of the first-echelon army is to destroy the enemy's nuclear delivery means, the main forces of the enemy's first-echelon army corps, and his immediate operational reserves, and to seize areas and lines for the destruction of the operational resistance of the enemy's defense and the creation of suitable conditions for the successful continuation of the army's offensive operation. Considering the characteristics and dispositions of the enemy's field army defenses, the depth of the immediate mission of the army is 100-150 km. The first-day mission of the army may be the destruction of the main forces of the enemy's first-echelon divisions and corps reserves.

The subsequent mission of the army is to destroy newly located enemy nuclear weapons, to complete the destruction of opposing enemy forces and reserves, and to seize the areas by which the aim of the army's offensive operation is achieved. The depth of the subsequent objective is 150-200 km. The aim of the operation and the character of offensive missions are determined by the scale of the army's offensive operation. The scale of the operation includes the depth, width, average unit's

advance rate, and the duration of the operation. The depth of the operation is the distance between the line of contact (state boundary) to the line (area) of the final advance of the army, where the aim of the operation is achieved. Since the aims of various operations are different, the depth of operations is variable, too. The frontage of the army's area in offensive operations is determined by the army's missions, the composition of confronting enemy force and its probable courses of action, the requirements to establish quantitative and qualitative superiority over the enemy in forces and means and to create proper conditions for maneuver, terrain conditions, and other elements of the combat situation.

Experiences in war and scientific calculations show that in order successfully to accomplish offensive missions, a two-to threefold superiority must be established over the enemy on the attack directions, considering the whole depth of the assigned mission. The frontage of the attack zone is determined by the nature of the deployment of own troops, the requirements of protecting friendly troops from the nuclear weapons, and the responsibility to destroy the enemy in assigned areas.

When there are five to six divisions at the army's disposal, with four divisions in the first-echelon, the frontage of the army attacking on the main offensive direction of the *front* in normal [European-type] terrain could be 60-80 km. On other directions, where the enemy has no sufficient forces and means, and in areas with much impassable terrain, the army's frontage can reach up to 100 km and more. Rates of advance in offensive operations are related to the following:

—the degree of resistance of opposing enemy forces and the firepower of army units;
—the possibility of maneuver to reinforce offensive strikes in depth and to maintain superiority on the enemy;
—the capabilities of forces to quickly restore their combat effectiveness;
—the elimination of the consequences of enemy strikes;
—crossing natural and artificial obstacles;

—the possibility of restoring combat support measures to facilitate the combat operation of units;
—continuous troop control.

The experience of field exercises, command and staff exercises, and calculations indicate that the rate of advance will not be identical on different days of offensive operations. In a *front* attack, when penetrating enemy prepared defenses in a breakthrough without the employment of nuclear weapons, the average daily rate of advance [a 24-hour period] would be 25-30 km; when attacking strong defenses, it will be 20-25 km. During an offensive in the depth of the enemy's defenses, the daily rate of advance could be increased up to 60-70 km and more. Generally, the average rate of advance with the employment of conventional means in normal terrain could be 40-60 km daily. In mountains, marshes, jungles, and arctic areas the average rate of advance decreases to 30-50 km daily, while in deserts and steppes it increases substantially. In a nuclear environment the following factors will have a great impact on the rate of advance:

—the effects of nuclear strikes;
—the requirements to restore unit combat effectiveness;
—the probabilities of troops being forced to bypass destroyed and radioactive contaminated areas, flooded areas, areas of fire, and other obstacles.

After the mass nuclear strike, much time will be required for the restoration of units' combat effectiveness, eliminating the effects of enemy nuclear strikes, waiting for the reduction of radiation, and reconstructing roads and march routes. The process of restoring the combat effectiveness of troops after the mutual initial nuclear strike and the organization of forces to launch the offensive in compliance with the new situation might take one to two days or even longer. The engineer units of the army and divisions construct two march routes for each division through the contaminated areas at a rate of 30-50 km per day. If the units are bypassing contaminated areas, the rate of constructing column [off-road march] routes will be 50-60 km per day. In open terrain with less vegetation and fewer built-up

areas, where the consequences of nuclear weapons will not be great, the rate of constructing column [off-road march] routes will be much greater, while in mountains and jungles it will be substantially smaller. Consequently, it is advised that for practical purposes the rate of advance in offensive operations should be planned and considered identically for immediate and subsequent missions and for both nuclear and non-nuclear environments. Thus the average rate of advance in the army's offensive operation will be 40-60 km per day. By this token, if the depth of the operation is 250-350 km, it could be accomplished in 6-9 days.

The Probable Composition and Combat Capabilities of the Combined Arms Army and Tank Army

COMPOSITION The army has no permanent organization (especially as far as the number of divisions in its composition is concerned). The composition of the army is determined by its mission in the execution of *front* offensive operations, the nature of its assigned missions, the composition of the opposing enemy and his probable courses of action; the scale of the employment of nuclear, chemical, and other mass destruction weapons by the *front*, or the volume of the support missions executed by *front* aviation in behalf of the army's offensive operation in a non-nuclear environment; the physical and geographical nature of the TSMA, and the importance of the operational direction along which the army is committed to conduct offensive operations.

The combined arms army may have five to six divisions, including one to two tank divisions, an army [surface-to-surface (SSM)] rocket brigade, artillery air defense units, and combat support units (subunits). The tank army normally has three to four tank divisions, an army rocket [SSM] brigade, artillery, air defense and combat support units. In some cases motorized rifle divisions may be included in the tank army.

As the experience of field exercises indicates, 80-100 nuclear rounds, including 20-30 percent nuclear bombs, 70-90 percent

nuclear rockets, and 60-80 chemical rockets are allocated to the army operating in the first-echelon of the *front* on the main direction. Moreover, a large quantity of *front* nuclear rounds are employed, according to the plans of the *front* command in the army's sector of attack. The army may be reinforced by an artillery division, antitank artillery brigade, assault crossing engineer units, and units (subunits) of radio electronic warfare means. Fifteen to 20 flights of a fighter-bomber regiment are allocated for the support of combat operations of army forces during the offensive operation. For the employment of tactical airborne assaults (desant) four to five flights of a helicopter regiment could be allocated to the army by the *front*.

For the purpose of destroying the main grouping of the enemy, the army may be reinforced with airborne assault units (large units). In the sector of the army's operation, operational airborne units could be employed.

The combat capabilities of the combined arms army (four motorized rifle divisions, one tank division) and the tank army (four tank divisions) are shown in the following table [table 1].

As illustrated in the table, the capabilities and combat abilities of contemporary armies have increased substantially compared to the armies of the final phase of the Great Patriotic War. Reasons for this are the introduction of nuclear weapons into the army's organization (operational-tactical and tactical rocket troops), the increase in the number of tanks, qualitative modernization of artillery, complete motorization of units, the successes achieved in combat effectiveness and materiel support, and the quantitative and qualitative increase in unit troop control means.

The army's organic weapons enable it to hit the enemy to a depth of 250-280 km with massive, grouped, and individual nuclear strikes. The army is able to destroy up to one enemy corps [two divisions], including its organic nuclear delivery means, simultaneously, with nuclear strikes. The army also has high capabilities in the employment of chemical weapons. Employing organic artillery during 20 minutes of preparatory fire, the army can destroy 10-12 Honest John weapons systems and can neutralize four to six battalions, or 12-14 artillery

Table 1 Elements of Modern Armies

Elements	*Combined Arms Army*	*Tank Army*
Divisions	Rifle Div 4-5	Tank Div 4 Tank Div 1
Personnel	About 50,000	About 40,000
Artillery and mortars	744 pieces	400 pieces
Tanks	1,266	1,252
Operational SSM (launchers)	9	9
Tactical SSM (launchers)	12-15	12-16
AT Weapons (guns and guided rockets.)	486	108
	Combat Capabilities	
Means	*Hectares*	*Hectares*
Firepower:		
Arty	380	200
Tank	170	160
Nuclear	9,150-10,400	8,400-9,400
Total	9,700-10,950	8,760-9,760

Note: Firepower is calculated in area neutralized for 20 minutes preparatory fire. The 82 mm mortars are not included.

Maneuver capability (daily rate of march) (out of contact)	250-300 km	250-300 km
Depth of operation	250-350 km	250-500 km
Daily rate of advance (attack—in contact)	40-60 km	40-60 km
	Combined Arms Army	*Tank Army*
Duration of operation:	6-9 days	6-9 days
frontage in offense:	60-80 km	45-60 km

batteries. Army artillery can support the penetration of enemy prepared defenses without the employment of nuclear weapons on a *front* of 6-8 km, and concentrate on that frontage 90-100 guns and mortars per km. Considering organic and supporting

artillery, the width of the army's penetration zone in a *front* attack may be eight to ten km. In the attack sectors of the combined arms army (taking into account the first-echelon divisions) 40-50 tanks could be concentrated in one km of the front.

The tank army, composed of four tank divisions, will have about 1,250 tanks and 400 guns and mortars at its disposal, giving it the capability to concentrate a large density of armor in areas suitable for tank strike maneuver. The capabilities of the army in defense against enemy air attack means is determined by the composition of the units, protective means and measures, and other relevant factors.

Table 2 illustrates the air defense units and weapons organic to the army.

Table 2

Large Units & Units	*Number*	*SAM System*		*Air Defense Art'y*	
		SAM S-75	*Strela 2M*	*S-60 Guns*	*ZSU-23-4 Shilka*
S-75 AD Rocket Regt.	1	3 units	-	-	-
			18 launchers		
Small caliber Air Defense Arty Regt	1-2	-	-	6-12	-
					36–72
Radio Technical Air Defense Bn.	1	-	-	-	-
MR Div	4	-	396	16	64
					96
Tank Div	1	-	51	4	16
					24
Total		3	450	26-32	80
		18		156-192	

Note: The numbers of weapons systems or batteries are shown in the numerators and numbers of weapons are shown in denominators.

As the table indicates, the army has a large number of modern air defense weapons. According to scientific calculations, including modern computer predictive models and arithmetic calculations, the army is capable of destroying 35-45 enemy aircraft in daytime and 12-15 in nighttime with one fire strike of its organic air defense means (taking in account the coefficient of participants, combat readiness, satisfactory troop control, and probable losses in air defense means), and is capable of covering its main striking force satisfactorily during the preparation and execution of offensive operations. In this case it should be noted that the "Strela 2M" weapons system is effective only when visual observation of the target is possible.

To support the combat operations of the army, a number of engineer, chemical, and other combat support units are organic to the army. The organic engineer support elements of the army are:

—combat engineer regiment;
—road and bridge construction engineer regiment;
—pontoon bridging regiment;
—engineer assault crossing battalion;
—engineer obstacle battalion (in the tank army, engineer obstacle crossing battalion);
—engineer company for command post construction;
—engineer company for repairs and evacuation.

The combat engineer regiment is employed to reinforce first-echelon divisions and in support of the execution of the army's missions. The combat engineer regiment can create 54 lanes through minefields during one night. At the same time (during ten hours) it can construct 150-300 km of column [off-road march] routes, dig 30-35 km of trench for the troops, and 250-300 km of trench for tanks and infantry fighting vehicles.

The road and bridge construction engineer regiment normally constructs and maintains the *front* main line of communications and "rokade" roads [roads parallel to the front] for the army. The regiment can reconstruct (repair) 120-200 km of roads and construct 160-300 km of column routes in ten hours, employing its road construction engineer battalions.

The pontoon bridging regiment constructs the crossings for the army over water obstacles. In one hour the regiment can construct a 443-meter bridge with a 60-ton capacity, or construct a 760-meter-long bridge with a 20-ton capacity. The regiment could be employed to construct rafts in the following combinations:

—twenty 60-ton rafts;
—sixteen 80-ton rafts;
—twelve 110-ton rafts.

The engineer assault crossing battalion is allocated to first-echelon divisions or kept in reserve. In one wave the battalion can cross two tank companies and one-and-a-half artillery battalions, with towing vehicles not exceeding ten tons.

The engineer obstacle battalion is normally employed to establish the mobile obstacles detachments (*podvizhnyi otriad zagrazhdenii*—POZ). The battalion is capable of laying mines on a five kilometers of *front*, using one set of mines. Each set includes 3,600 mines. Additionally the battalion can lay 18 sets of remote-controlled mines in 2 hours, covering up to 2 km of front.

The army may be reinforced by more road construction, combat engineer, trench-digging, pontoon bridge, assault crossing, and other engineer units. The above-mentioned organic and allocated engineer units ensure the accomplishment of basic engineering tasks in offensive operations.

The combined arms army and the tank army have sufficient organic chemical units: two independent chemical protection battalions, one independent terrain decontaminating battalion, one independent clothing and equipment decontaminating battalion, one independent chemical and radiation reconnaissance company, one independent rear services chemical protection company, a nuclear burst calculation station, and an air radioactive reconnaissance company (three MI-4 helicopters). Each rifle and tank division has an independent chemical protection company. One chemical protection platoon is organic to each regiment.

The organic chemical units enable the army to detach simultaneously 80-100 chemical observation posts or the same number of chemical reconnaissance patrols in order to conduct radioactive, chemical, and biological reconnaissance. At the same time army chemical units can decontaminate (special decontamination level) the personnel, weapons, and equipment of up to 25-30 battalions in one-and-a-half to two hours. In some situations the army is reinforced with more chemical units by the *front*.

The organization and increased combat capabilities of the army require that the army should execute an offensive operation decisively, in great depth, with a high rate of advance, and move forward rapidly while maneuvering from one direction to another.

The successful accomplishment of the army's missions and the achievement of the aim of the operation is related to a great degree on the training level of large units and their personnel and their political and morale status. The political and morale status of the troops is the most important factor in their combat effectiveness. The actual combat missions (in battle and in operations) are accomplished by personnel who know how to use the weapons and equipment. The high political and morale status of the troops, their firmness and sustainability, their strong faith in the cause of their struggle for Communism, and finally, the high standards of their combat training are and will be, the vital and most important factors in defeating the enemy. This fact is especially important in the operations executed with the employment of nuclear weapons.

Political and Party indoctrination is vital to achieving high morale among the troops. The basic mission in political and morale training of the personnel is to ensure loyalty toward Communism, country, and people, hatred of the enemy, devotion, strong will, resistance and everlasting firmness in defeating the enemy regardless of hardships, and to provide them with a high standard of combat training to succeed in any mission and in all situations of combat operations. These and other political and Party tasks are the duties and responsibilities of all

commanders as well as the staffs of political and Party organizations of the army.

The Forms of Executing Offensive Operations and the Destruction of the Enemy

The forms of executing offensive operations embody the forms and methods of employing the units and weapons, and the character of troop actions in the destruction of enemy main groupings in the army's attack sector to the full depth of offensive operations. The forms of destroying enemy groupings reflect the method and nature of employing forces and means and the character of the army's forces in destroying the enemy's individual groupings. These individual enemy groupings may consist of one to two or more divisions, nuclear delivery means, and other assets, which conduct defensive, offensive, counterattack, and counteroffensive (counterstrike) missions.

The forms of executing offensive operations and the forms of destroying the enemy are closely related to the types of weapons employed (nuclear or non-nuclear). If the execution of the offensive operation and the destruction of enemy grouping is going to be conducted by employing nuclear and chemical weapons, the following must be determined:

—the method of employment of mass-destructive weapons (mass strikes, groups of strikes) to destroy the enemy main grouping;
—the direction of the main attack and supporting attacks;
—the areas where decisive destruction is to be inflicted on the enemy;
—the nature of combat operations by army groupings.

In a non-nuclear environment, when determining the method of executing offensive operations and the destruction of the enemy, the following must be determined:

—the method of employing artillery, aviation, and other means of destruction;
—the direction of the main attack and supporting attacks;

—the nature of combat operations of motorized rifle and tank large units;
—the method of destroying the enemy's main grouping in terms of frontage and depth;
—the areas where the greatest losses are to be inflicted on the enemy.

The decision concerning the forms of executing offensive operations and the destruction of the enemy is related to the operational concept of the *front*, the numbers of higher echelon forces and means to be employed in the army attack sector, the army combat composition, operational disposition of friendly troops, the composition and probable course of the enemy's actions, terrain, and other factors.

In operations employing nuclear weapons, the following forms of executing offensive operations and destruction of the enemy are employed:

—inflict decisive losses on the enemy by nuclear and chemical mass strikes (groups of strikes), the rapid advance of army units along the specified direction in cooperation with airborne assault troops, and the assault landing (raiding) units (large units) to complete the destruction of surviving enemy units and to seize the final objective of the operation;
—inflict heavy losses on the enemy by nuclear and chemical weapons, with army units attacking from different convergent directions to encircle and destroy the main grouping of the enemy along with simultaneous advance to the enemy's depth;
—inflict heavy casualties on the enemy by nuclear and chemical weapons and the attack of motorized rifle and tank large units to the flank and rear of the enemy's main grouping in order to press it toward a natural obstacle and, subsequently, destroy it.

The basis of all the above-mentioned forms of executing offensive operations is inflicting decisive losses on the enemy's main grouping by nuclear weapons, the decisive and rapid combat operations of motorized rifle, tank, airborne and airborne

assault (raiding) units to complete the destruction of enemy forces, and to achieve the aim of the operation with a high rate of speed.

In operations without the employment of nuclear weapons, the following forms of executing offensive operations and the destruction of the enemy are employed (see diagrams):

—delivering a heavy, breakthrough strike on one direction as far as the whole defensive depth of the opposing enemy grouping, while simultaneously widening the gap to the flanks and destroying enemy units divided into separate groups. This form is usually employed when the army executes the breakthrough of strong and deeply prepared defenses of the enemy at the beginning of the operation;

—launching two, and sometimes more, breakthrough strikes to disintegrate the main grouping of the enemy and break it into individual groups. This form is employed preferably when the enemy's defense is of a hasty nature with less depth, and when the enemy has no large reserves at his disposal on that direction;

—launching heavy blows along the convergent directions in the enemy's defense in order to encircle the main grouping of the enemy, along with the simultaneous exploitation of the attack in depth. This form is employed when the army has sufficient means to launch two strikes and the trace of the front line facilitates the encirclement and quick destruction of the enemy's main grouping;

—delivering the strike on one flank of the army's attack sector in order to encircle the main enemy grouping in cooperation with other *front* formations or to get into the enemy's rear area and subsequently destroy him by flanking strikes and attacks from the rear.

The basis of the forms of executing offensive operations and the destruction of the enemy without the employment of nuclear weapons is the massive employment of units and destructive means on the selected directions, inflicting heavy casualties on the enemy by fire, and decisive attack of units, along with the employment of airborne and assault landing (raiding) units.

Army Formation for Operations in an Offensive Operation

The army formation for operations is established for executing operational missions. The formation for operations should first of all ensure successful actions under conditions of nuclear weapons' employment and, at the same time, facilitate rapid changes in groupings of forces in order to execute their missions with the employment of non-nuclear weapons. The formation for operations of the army for offensive operations must comply with the determined form of the destruction of the enemy main grouping. It should also facilitate the continuous preparation of troops to accomplish assigned missions. Above all, it should facilitate: the delivery of initial nuclear strikes, establishment superiority over the enemy on the directions of attack, the launching of strong, surprise attacks at the beginning of the operation and its rapid exploitation to the depth, sustained and continuous activity, necessary deployment and dispersion of units, stability and firmness in repelling enemy surprise attacks, adequate air defense, troop control, and the assured, advantageous use of the terrain features. The manner in which army units are grouped is determined with careful consideration of the following:

—the likely composition of enemy forces and the character of operations;
—the possibilities for conducting combat along the border;
—the requirements for breaking through the enemy's prepared defensive lines;
—the need to repel the blows of strong enemy land and air force groupings with or without the employment of nuclear weapons.

To execute offensive operations, the army will establish its formation for operations in two echelons and will have other elements in its formation for operations such as army rocket troops, army artillery group, grouping of air defense troops, airborne units, (naval assault units when attacking in maritime areas), antitank reserves, mobile obstacle detachments, and special reserves. [See figure 6.]

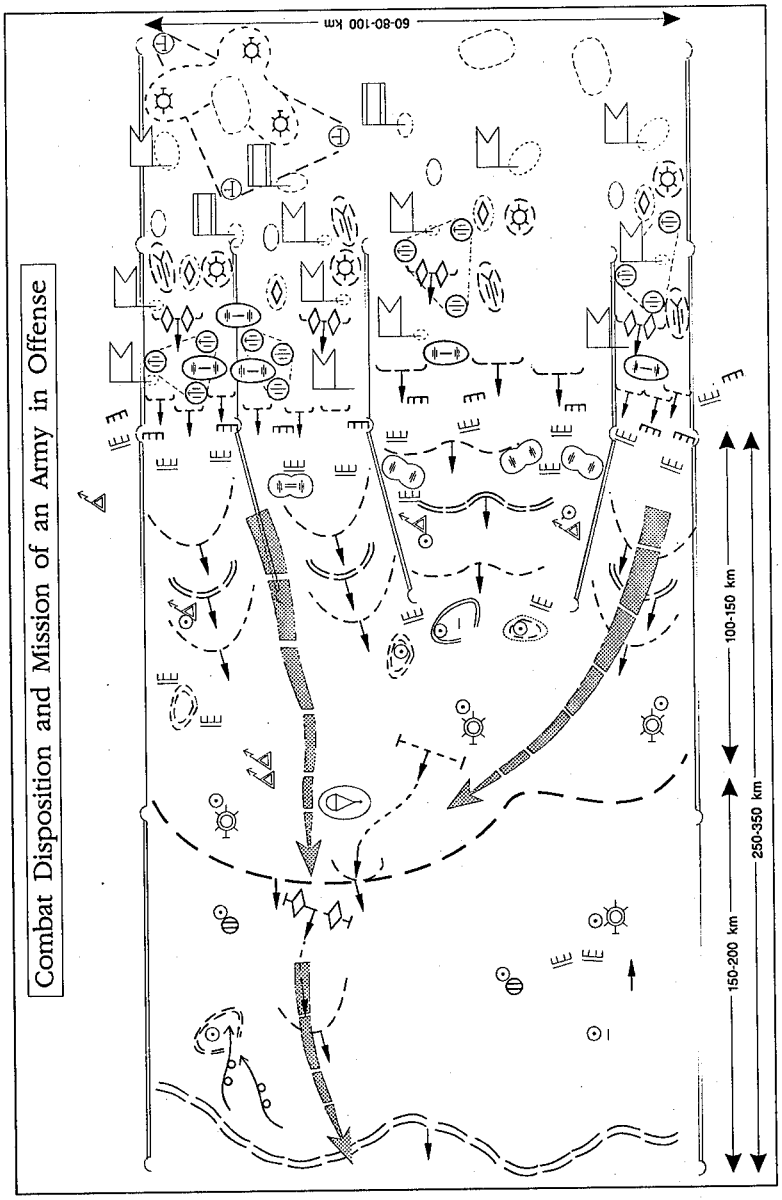
Combat Disposition and Mission of an Army in Offense
60-80-100 km
100-150 km
150-200 km
250-350 km

Figure 6

Depending on the mission, army composition, frontage of attack, the composition and likely method of enemy actions, and the form determined for the enemy's destruction, the army's first-echelon may include three to four and even five divisions and the second-echelon one or two divisions. In some situations the army may maintain a combined arms reserve.

In situations in which the enemy is deployed in a deliberate defense and has fortified his defense with engineer constructions, it is advisable that motorized rifle divisions attack in the first-echelon and the tank division follow up in the second-echelon in order that it can be committed after the first-echelon has broken through the enemy's prepared defense, and so exploit the offensive to the full depth of the enemy. When a meeting engagement is anticipated, tank units are employed in the first-echelon to strike at the flanks and rear of the enemy's main grouping and to exploit the attack to the full depth.

The army rocket brigade, as well as the division's rocket battalions, are maintained in constant readiness to negate and weaken to a maximum degree the enemy's nuclear strike means, to inflict heavy casualties on the main enemy grouping, especially his tanks, command posts, and operationally important communications centers, and to destroy the enemy air defense means and his vital objectives in the rear area.

The army artillery group [normally formed in a non-nuclear environment] is composed of seven to nine gun and multiple rocket launcher artillery battalions and, according to the number of divisions operating in the main attack, is divided into subgroups. During operations in which the employment of an army artillery group in support of the main grouping is not anticipated, the artillery units and large units instead are attached to those divisions in support of which the above-mentioned artillery units initially operated as part of the army artillery group, or these artillery units are attached to divisions newly committed into combat.

The army's antitank reserve is established in order to repel likely enemy tank attacks, counterattacks, and counterstrikes and to consolidate captured lines during the operation. The composition of the army's antitank reserve may vary in different

situations. Normally it is composed of an antitank artillery regiment, or several antitank artillery battalions organic to the antitank brigade of higher echelons.

The structure of the army's formation for operations may change when new situations make it necessary.

II. Preparation of an Army Offensive Operation

Contents and Sequence of Preparing the Operation

The preparation of an offensive operation consists of a number of actions and measures taken by the commander, staff, chiefs of branch arms and services, political and Party organizations, and rear services units and organs to organize, plan, and fully support combat operations of the army. The most important actions taken to prepare for the operation are the following:

—making the decision and planning the operation;
—conveying missions to the troops, the organization of coordination, and preparing troops for combat operations;
—conducting engineering preparation of the staging areas;
—allocating and dispersing materiel reserves;
—organizing and conducting political measures;
—organizing full support of combat activities and command posts;
—maintaining the constant high readiness of forces to support the execution of assigned missions.

The initial data in preparing the offensive operation are the following:

—aim of the operation and the army's missions as assigned to the army by the directive of the *front*;
—composition of the army's forces and means;
—assessment of all factors affecting the situation.

The preparation of initial operations is usually taken in peacetime prior to the outbreak of war, and part of the preparation is conducted during the period of threat at the outset of war. Some

preparations are made at the beginning of combat operations in the initial phase of war.

The organization and planning of initial operations are carried out while the situation is not very clear. It is very difficult to anticipate all the details of the form and characteristics of future war, the duration of combat operations without the employment of nuclear weapons if the war is going to begin with the employment of conventional weapons only, and the form of the enemy attack and other details. Therefore, it is very important that the initial operation should be planned in full consideration of the successful accomplishment of assigned missions in any forthcoming situation with or without the employment of nuclear weapons.

In order to ensure the successful accomplishment of assigned missions in the initial army operation under various conditions of the beginning phase of a war initiated by the enemy, it is necessary to anticipate the execution of the initial army operation in a pattern including the following forms:

—destruction of the enemy by the massive employment of nuclear weapons and, subsequently, by the combat actions of army units. The requirement of this form is to overtake the enemy in the delivery of meeting engagement strikes by the maneuver units, massive air strikes, and the rapid movement of motorized rifle and tank large units;

—destruction of the major enemy grouping, without employing nuclear weapons, by meeting engagements, breaking through the enemy's prepared defenses, and conducting a defensive action on some [secondary] directions;

—combat operations of army units to repel the attacks of superior forces of the enemy (surprise attacks).

In each of the above, it is necessary that all measures and actions that ensure the progress of combat operations by army forces to halt deliberate enemy aggression, in close cooperation with the other armies, rocket troops and *front* aviation, should be planned and organized in much detail.

Obviously, the conditions for preparing subsequent army operations would be different. Therefore the content and

sequence of actions and measures to prepare a [subsequent] offensive operation would have different specifications.

The experience of the Great Patriotic War indicates that during the successful exploitation of the offensive, preparations for the army's subsequent operation had been started in the course of accomplishing the previous operation's mission without any operational pause. Today, because of nuclear weapons and the developing nature of units capabilities in launching attacks, delivering blows, and conducting rapid maneuvers, it is more likely that the preparation of subsequent operations in the course of the offensive operation would be in the same manner. That obviously constitutes a basically difficult task. At the end of the initial operation, one of the important tasks of the army commander and staff would be the organization and execution of all measures to provide favorable conditions for starting the subsequent army operation. In this context the most important measures are:

—organizing and carrying out reconnaissance, not only to facilitate accomplishment of the initial operation but also in support of the subsequent operation;
—having the army commander make a timely decision for the subsequent operations, issuing operational missions to units at least 24 hours before the beginning of the new operation, and organizing coordination in the shortest possible time;
—conducting the necessary regrouping of forces and means at an earlier stage;
—supplying and distributing nuclear and conventional ammunition, fuel, and other materiel and technical supplies to the units;
—bringing forward troop rear service echelons;
—restoring the combat capabilities of large units and units that suffered heavy casualties, relieving them with units in the second-echelon and reserves, or replacing them by units and large units allocated by the *front* commander from the *front* reserves.

One main difference between initial and subsequent operations is that in the latter the conditions and situations under

which the operation will be executed are more clear and specified, especially knowledge of whether or not the operation will be executed with the employment of nuclear weapons. Therefore, it is necessary that at the end of the initial operation, and in the shortest possible time, the assigned missions should be confirmed, the situation estimated, and the decision made. Then all other actions for the preparation of the new operation must be taken in full conformity with the decision.

Making the Decision

The army commander's decision for the offensive operation is the basis of all other actions taken in support of the preparation and execution of the operation. Therefore, the army commander should employ all of his knowledge, art, and experience to make a decision for the operation that is the most rational, comprehensive, and practical. This could only be achieved after a thorough understanding of the *front* commander's concept of the operation and the army's aim and missions, and after a complete evaluation of the different aspects of the situation and finally the operational forecasting of the army commander.

The clarification of the assigned mission is the correct understanding of the operational aim and army missions, the role and place of the army in *front* operations, the missions of adjacent armies, rocket troops, aviation, and other cooperating forces. For this purpose the army commander is required to study and understand the following:

—general political and military situation in the theater and in the army's operational area;
—aim and missions of the army in the operation: what groupings of the enemy should be destroyed, what terrain must be seized, and what methods and forms of accomplishing missions should be used in conformity with the concepts of the *front* commander;
—what forces and means of the *front* and higher echelons are to be employed to destroy targets and enemy groupings in the attack zone of the army, with or without the employment of nuclear weapons;

—on which direction the *front* concentrates its main attack, and which form is employed by the *front* to accomplish its mission;
—length of time allotted for the accomplishment of the mission and the scale of operations;
—conditions of coordination with forces and means of the *front* and higher echelon and also with adjacent forces;
—time available to the army for the preparation and execution of the operation.

In the estimate of the situation, the following factors are estimated and analyzed: the enemy; friendly forces, including those adjacent; terrain; radioactive, chemical, and biological situations; national composition and opinions and tendencies of local population in the operation area, their political status and their relations with friendly forces; economic situation in the combat operation area; meteorological conditions; and the season and the duration of days and nights. When studying and analyzing these factors, the army commander estimates to what extent they influence the accomplishment of the operational missions, and consequently he determines the forms of the employment of his forces and means in close consideration of the existing situation.

The most important thing in the estimate of the situation is to reach rational conclusions that are also based upon a deep and thorough analysis of all information collected up to the time of receiving the army's mission for the operation, and in close consideration of possible changes in the situation at the beginning of the attack and during the execution of the offensive operation. This requires that a deep and clear operational forecast be made at the time of making the estimate of the situation by the army commander. When estimating the enemy, the commander should determine the following:

—enemy capabilities for the employment of nuclear and nonnuclear weapons;
—composition, disposition, status, and nature of actions by the enemy land, naval, and air forces;

—possible concepts of enemy operations, the forms of enemy war initiation, the strong and weak points of the enemy;
—main grouping of the enemy and the forms of its destruction;
—favorable directions for the main attack and supporting attacks in close consideration of strong and weak points in the enemy's dispositions;
—targets to be destroyed during initial nuclear strikes and requirements to achieve superiority ratios, in forces and means, along attack directions;
—capabilities of the enemy to reinforce his groupings during the execution of the operation and other related facts.

In estimating friendly forces, the commander should assess the following:

—capabilities of friendly forces in combat operations with and without the employment of nuclear weapons;
—operational disposition, status, and supply standards for the large units and their impact in determining main attack and supporting attack directions, formation for operations by the forces, and the timely establishment of strike groupings, methods of initiating the attack, and the nature of force actions during the accomplishment of operational missions;
—number of forces and means required generally for the whole zone of advance and specifically for each attacking direction; the correlation of forces and means in quantity and quality to assess the force ratios on the main direction, across the entire zone of the planned action, and to the full depth of assigned mission; and
—other related facts.

The methods of command and staff procedures in the clarification of the assigned mission, the estimate of the situation, and determination of the content of the decision might vary.

The army commander initially clarifies the assigned mission, estimates the situation personally, and hears the reports and suggestions of the chiefs of operations, reconnaissance, and arms and services. Later on, after the exchange of opinions with

members of the military council and chief of staff, the army commander can determine precisely the concept of the operation and force missions. Only a limited number of persons are briefed, and then only about the parts of the decision that may concern them. The forces are issued brief combat instructions based on the content of the army commander's decision. This method of command and staff procedure requires that the commander should estimate and assess the situation and make a decision in the shortest possible time. This method favors the secrecy of the concept of the operation.

In the practice of operational training by staffs and staff procedures, another method could be seen by which the commander clarifies the assigned mission and estimates the situation together with all staff members, commanders, and chiefs of arms and services. In this case the army commander listens to the conclusions about the situation made by the chiefs and commanders of arms and services and their suggestions concerning the employment of related forces and means, and hears the suggestion of the chief of staff about the decision for the army offensive operation, and then the army commander in their presence announces his decision. This method requires that additional measures, which concern the secrecy of the operation's concept and the decision, must be taken by the army staff.

If the army commander knows the situation in the operational zone of the *front* thoroughly, he may make the decision for the army's offensive operation without hearing the reports and suggestions of his staff. Principally, the methods and procedures employed in making the decision are dependent on the situation, the experience and qualifications of the commander himself, and also the coordination status of the field troop control procedures of the army. The contents of the army commander's decision on the offensive operation are:

—concept of the operation;
—missions, targets, and methods of nuclear weapons employment ;
—missions of motorized rifle and tank divisions (army corps), rocket and artillery troops, supporting aviation, and airborne assault elements;

—missions of air defense troops and the various reserves;
—items related for coordination, measures to support the combat actions of the troops, and command and control.

The basis of the concept of the operation is determining the main grouping of the enemy, the form and method of its destruction with or without the employment of nuclear weapons, the main and supporting attack directions, and the establishment of the formation for operations for the attack.

In operations conducted with the employment of nuclear weapons, the destruction of enemy groupings, including nuclear delivery means, is generally achieved by nuclear weapons. In this case the establishment of a great superiority over the enemy and the concentration of large densities of artillery, tanks, and motorized rifle units on the attack directions are not necessary.

When the army is to accomplish its operational missions without the employment of the nuclear weapons, the firing capabilities of the army in range and effectiveness on the enemy's targets should be considered in more detail than is the case in operations in which nuclear weapons are employed. For example, the basic mass of the army's artillery can destroy enemy targets only in 15-18 km depth, and only a small portion of the artillery can engage targets beyond 20 km. The limited capabilities of conventional weapons makes it necessary to try to achieve the destruction of the enemy successively (not simultaneously) forward and in depth, and to concentrate strong groupings of friendly forces on the decisive directions of attack in order initially to destroy the first-echelon large units of the enemy and, subsequently, exploit the achieved gains, destroying the enemy's groupings located in the depth.

When conducting a breakthrough, the army initially should achieve the decisive destruction of the enemy on the main attack direction on a relatively narrow front (10-12 km), and then exploit to the flanks and to the depth. The main efforts of the army must be concentrated on the destruction of such a specific grouping of the enemy that it will facilitate the timely achievement of the operation's aim.

To accomplish the operational missions successfully, large concentrations of artillery, tanks and motorized rifle units and

decisive superiority in forces and means are required on the main attack directions. This will enable the army to deliver heavy strikes against the enemy at the outset and facilitate the quick arrival of units to the enemy's flanks and rear, force the enemy to fight in unfavorable conditions, and, finally, make it impossible for the enemy to continue an organized resistance along a stable defensive front.

The experiences of the Great Patriotic War and field exercises of the troops after the war until the introduction of nuclear weapons in the forces, along with the experiences of field exercises carried out in recent years with troops equipped with nuclear weapons, indicate that in order to accomplish the assigned mission in offensive operations without the employment of nuclear weapons, the following superiority ratios should be established on the attacking axes:

Table 3

DESIRED TACTICAL FORCE RATIOS IN OFFENSIVE OPERATIONS

	Last Operations of WWII:1944-45		*Concepts of 1945-1953*	
Forces and Means	*General*	*Main Attack*	*General*	*Main Attack*
Motorized battalions	1.4-6.5:1	3.0-8.5:1	1-1.5:1	3-4.0:1
Tanks	1.1-6.0:1	4.5-9.0:1	1.5-2.0:1	3-4.0:1
Artillery	1.5-6.5:1	4.2-8.0:1	1.5-2.0:1	3-4.0:1
Aircraft	2.0-3.5:1	2.0-3.5:1	1.5-2.0:1	1.5-2.0:1

EMPLOYMENT OF NUCLEAR WEAPONS

	With		*Without*	
Forces and Means	*General*	*Main Attack*	*General*	*Main Attack*
Motorized battalions	1.0-2.5:1	2.0-3.0:1	1-1.5:1	3-4.0:1
Tanks	1.0-1.5:1	2.0-3.0:1	1-1.5:1	3-4.0:1
Artillery	1.0:1	1.5-2.0:1	1-1.5:1	3-5.0:1
Aircraft	1.0:1	1.0:1	1.2-2:1	1.2-2:1

Establishing a superiority in force ratios requires the concentration of forces and means on relatively narrow frontages. However, it must be noted that such concentrations constitute

vulnerable targets for the enemy's nuclear weapons. In order to reduce the possibility of incurring large casualties as a result of likely enemy nuclear strikes on such concentrations, it is necessary to construct engineer protective works in the staging areas, to ensure units' dispersion in those positions, and to provide them with sufficient *maskirovka* and camouflage.

Additionally, the personnel, vehicles, and equipment should be emplaced in protective constructions sufficient to protect them against the effects of enemy nuclear weapons. When the method of attacking from the march is used to initiate offensive operations, the troops are dispersed in staging areas with safety intervals and distances. In such cases, the concentration for breaking through enemy defenses is achieved by the timely advance of attacking elements from widely dispersed directions to concentrate for breaking through on a narrower front. After penetrating enemy defenses, they exploit the attack to the flanks and advance quickly to the depth of the enemy's dispositions. The army commander specifies the following when determining the missions, targets, and methods of employing nuclear and chemical weapons:

—enemy's groupings and targets to be destroyed by army and division means during the initial and subsequent nuclear and chemical strikes;
—form and degree of destruction of enemy groupings by nuclear and chemical weapons;
—forces and means to be employed for the delivery of initial nuclear strikes;
—allocation of nuclear and chemical ammunition to the missions and their distribution to the large units;
—reserves of nuclear and chemical ammunition.

When determining the combat missions of the divisions, their combat composition, the enemy groupings, the nature of the enemy's defenses, the degrees of their neutralization by the means of the *front*, and, finally, the terrain should be considered in detail.

The offensive frontage of the first-echelon division could be 15-20 km. In the depth of the enemy's defenses, it may be

increased to some extent. The breakthrough of the enemy's defensive positions is normally conducted on up to four km of frontage by the division. In some situations (breaking through the enemy's prepared defense), the offensive frontage of the division attacking in the main attack direction of the army may conform with the penetration frontage (breakthrough frontage).

In assigning combat missions to the first-echelon division, the attachments, the attack direction, immediate and subsequent missions, the mission of the day, and, in some cases, the lines that should be seized by the forward detachment of the division at the end of the day, the number and yields of nuclear rounds allocated to the division, and the targets to be destroyed by the division during the initial nuclear strikes, are specified.

The division commander should also be briefed about the next day's mission, about the methods of the employment of the nuclear and chemical weapons, and aviation operations executed by *front* means in the division's zone of offense. The second-echelon divisions are assigned the immediate mission and the direction for continuing the attack.

The immediate mission of the division is to penetrate as far as the rear boundaries of the enemy first-echelon brigade defenses and to seize the defensive positions of brigade reserves; the subsequent mission is to penetrate and breakthrough the entire depth of the enemy's first-echelon division, destroy division reserves, and seize favorable terrain that facilitates the exploitation of the breakthrough to the flanks and to the depth. The daily mission of the division could be the destruction of enemy corps reserves, in close cooperation with other adjacent large units, and the seizure of terrain features (lines, objectives) in depths up to 40-60 km. The first-echelon divisions may also be assigned to support and ensure the deployment and commitment into combat of the army's second-echelon. To accomplish the latter mission, one reinforced regiment is normally allocated by each first-echelon division.

When attacking the enemy without employing nuclear weapons, the first-echelon divisions should also be assigned the penetration frontage and given missions to inflict heavy casualties on the enemy by fire during the preparatory fire for the

attack. In order to concentrate the necessary groupings of forces and means in the penetration zone in the shortest possible time, by commencement of the combat operations, the boundaries and missions of the first-echelon divisions may be reconfirmed, and the commitment of one of the second-echelon divisions may be anticipated.

The second-echelon divisions are assigned waiting areas located 40-60 km to the rear of the first-echelon divisions, the method of advance, the likely lines of their commitment into combat, an advance sector 12-20 km wide on two or three directions, the estimated immediate mission, and the direction for continuing the attack.

The basic mission of second-echelon forces of the army in the offensive operation is the exploitation of the attack in the direction of the main attack. Therefore, the content of the mission of second-echelon large units includes the destruction of approaching enemy reserves and the seizure of the enemy's defensive lines in depth from the march. In the missions of the army's rocket brigade the following are determined:

—targets to be destroyed during the initial nuclear and chemical strikes;
—numbers and yields of nuclear weapons allocated to destroy each target, type of burst, time of preparation and launching the weapons, and the time of the distribution of nuclear, chemical, or conventional warheads;
—measures to be taken in order to maintain the constant combat readiness of rocket troops for delivering nuclear strikes;
—form and timing of the deployment of rocket troops at the beginning of the operation and their movement during the operation.

The artillery is assigned:

—artillery groupings;
—missions concerning the repulse of enemy attacks and his destruction in the security zone;
—missions in support of the breakthrough (artillery density, the duration and method of the preparatory fires, assault support fires, and rates of ammunition expenditure);

—missions during the operation, particularly in support of the commitment of the army's second-echelon into combat;
—composition of the army's artillery group (AAG); the method and timing of its deployment at the beginning of the operation and its movement in the course of the operation.

The supporting aviation is assigned missions concerning their participation in the preparatory fires and assault support fires in favor of the army's offensive operation, and the allocation of combat sorties to different missions.

The air defense forces are assigned:

—areas in which the main efforts of air defense forces are concentrated to cover the main groupings and installations of the army;
—method of repelling enemy's air strikes;
—forms and methods of coordination with fighter aircraft and *front* air defense troops;
—composition of combat duty forces and means;
—method and timing of the deployment of air defense troops at the beginning of the operation and their maneuver during the operation.

Airborne assault units should be assigned:

—area, time, and means of landing;
—combat missions in the depth of the enemy;
—method of delivering nuclear and air strikes in the landing zones and further combat operation areas of the airborne assault units;
—method of coordination with supporting aviation and link-up units;
—staging areas and the time of being positioned;
—the preparation time of each airborne assault unit for embarkation;
—organization of troop control.

The army commander should determine the composition and missions of the reserves, their areas of location, methods of their movements; area and time of command post deployment

and their directions of advance, and finally, he should nominate his successor in command.

Additionally, the army commander specifies political missions and tasks and gives combat instructions concerning the organization and execution of political affairs and strengthening the morale of the units in behalf of the forthcoming operation.

The army commander instructs the chief of staff and the chiefs of troop arms and services on matters pertaining to the method of planning the operation, the issuing of missions to subordinates, the organization of coordination, measures to take in behalf of the maintenance of higher unit levels combat readiness, the organization of all types of combat support, and the organization of command posts.

Planning the Operation

Planning for the offensive operation is executed by the army staff on the basis of the army commander's decision and his instructions. Planning is conducted in order to determine the methods of execution and the most feasible forms for the accomplishment of the army's operational missions, in close consideration of the expected results of employing of the destructive means of higher echelons in the army's sector; the distribution of efforts produced by forces and means on missions and attack directions; and to specify the details of close coordination among troops during the execution of operational missions and the organization of all types of combat support measures and troop control.

In planning the operation, the army staff is required to exert the greatest initiative in creating and setting the most rational and practical sequences in the execution of operational missions and should get the commander's confirmation in regard to the staff's suggested courses of action.

The methods and techniques of executing of rocket troop missions in the initial nuclear strikes of the *front*, and the combat operations by army units on the first day of the operation and during the accomplishment of the army's immediate mission,

both with or without the employment of nuclear weapons, are planned in more detail during the operation's preparation.

To repel enemy surprise attacks, the groupings are assigned special tasks and lines located in the attack staging areas, and covering troops with specific missions are detached. The plan also includes the methods of unit advance to the attack staging areas and the volume of engineer works, especially the construction of engineer obstacles.

The initial nuclear strikes of the *front* are planned to destroy enemy nuclear delivery means, inflict decisive casualties on enemy troops, aviation, air defense means, command posts, and other targets located in the army's sector of offensive operations. In this phase the targets and the sequence of delivering strikes are determined in conformity with the *front* plan of operations. Accordingly, the use of nuclear weapons on each assigned target is planned, in which it is described which large unit (unit) should engage which targets. The plan also indicates the center of explosion, the number and yields of nuclear weapons, the altitude of airbursts, and the safety distance between friendly forces and the center of explosion.

The combat actions of the troops after the initial nuclear strikes, the methods of preparatory fire (the method and sequence of destroying each enemy grouping by artillery fire and air strikes), the form of destroying the enemy's covering troops and important groupings, according to the likely nature of their action (meeting engagement, breakthrough of the forward edge [of defense], and so on) are anticipated in the operation's plan.

The method of combat against enemy aviation during the repulse of an enemy surprise attack, during the advance and occupation of the attack staging areas, launching the attack, and also during the destruction of each enemy grouping, is organized in full detail. Measures necessary to destroy the enemy's nuclear weapons, command posts, and vital rear service targets are anticipated. Additionally, the method of seizing vital terrain features and lines in the enemy defense are anticipated. To destroy enemy rocket-launchers, nuclear artillery, nuclear weapons depots, nuclear demolition munitions, and

other targets, a number of aviation and artillery units are allocated, and the employment of deep diversionary-reconnaissance groups, airborne assault landing units, and special detachments of motorized rifle and tank divisions are organized.

After the mutual initial nuclear strikes, the situation, status, and combat effectivenss of the large units and units that suffered from the enemy's nuclear strikes should be reevaluated in detail, which might sometimes change completely the planning of troop combat actions. Obviously, this could be effected in the phase of restoring of troop control, restoring of troop combat effectiveness, and eliminating the impact of enemy nuclear strikes. Actually, assumptions related to determining the likely consequences of enemy nuclear strikes would be very difficult to make during the operation's preparation phase. The experience of field exercises and scientific calculations indicate that collecting information about the impact of the nuclear strikes and the restoration of units combat effectiveness might take much time. During this time, a review of operational plans, issuing reviewed missions to the subordinate units, and then preparing for the execution of these missions should also be effected.

During planning of the operation, detailed calculations of the correlation of forces are made across the entire army offensive sector and separately in each attack direction, including an analysis of the quantity and quality of opposing forces as well as the effectiveness of nuclear and non-nuclear weapons. The breakthrough of enemy prepared defense without the employment of nuclear weapons is planned in greater detail, to include also the concentration of necessary groupings of forces and means to shatter the enemy's defense throughout its depth. The preparatory and assault support fires are planned in great detail based on available information, and further reconnaissance is organized to acquire a full picture. The exact location of each enemy strongpoint [normally a platoon-size strongpoint], particularly armor-protected targets, and the density of artillery, tank, and motorized rifle units is calculated. Additionally, the number of artillery pieces, tanks, and aircraft to be employed in the preparatory and assault support fires is determined. The

targets to be destroyed are distributed to the firing units (artillery and aviation), and other fire support is coordinated with the maneuver of the motorized rifle and tank large units and units in terms of time, place, and objectives during the attack and the breakthrough. The necessary measures concerning the satisfactory covering of troops against enemy air strikes are organized. All types of combat support measures (especially those ensuring surprise, protection from mass destructive weapons, radio-electronic warfare, and troop control) are organized. Necessary measures to support the development of the penetration toward the flanks and to the depth are anticipated. Methods for repelling the enemy's counterattacks and counterstrikes and for the consolidation of captured lines (objectives) are also anticipated.

It is necessary that fires on the enemy are planned in terms of time and place. Additionally, it is important that artillery fires from covered positions, air strikes, the fires of combat helicopters, and fire from direct-fire weapons should be tailored to the types of targets and their ranges. Tank units and infantry combat vehicles should be assigned targets that are in range of their flat trajectory fires.

The planning of the operation is shown on the offensive operation plan, which gives a detailed version of the commander's decision and is depicted on a map with the necessary notations on the map legend as well as some calculations and rationales. The offensive operation plan may be prepared in written form with the map annex showing the army commander's decision. Appendices for the operation plan include:

—plan of the army's participation in initial nuclear strikes;
—plan for the preparation and occupation of the attack staging areas;
—plan for restoring the combat effectiveness of the troops and eliminating the consequences of the enemy's strikes;
—other documents.

On the basis of the commander's decision and the plan of operation, the chiefs of the troop arms and services organize the plans for the combat employment of related arms and the plans for combat support measures. The army chief of political affairs

organizes the plan of political affairs for the army offensive operation. The deputy commander for rear services organizes the rear service support plan for the operation.

The plan for the army's offensive operation is drawn on a 1:200,000 or 1:100,000 scale map with written instructions on the map legend. The graphic part of the plan as drawn on the map, includes:

—groupings of enemy forces and their possible courses of action;
—formation for operations of army units at the staging area;
—immediate and subsequent missions of the army, their contents, depths, the time of their accomplishment and the rates of unit advances;
—directions of main and support attacks;
—targets to be destroyed during the initial nuclear strikes;
—missions and targets of chemical weapons;
—missions of first-echelon divisions (corps), the time of their accomplishment, and the boundaries;
—method of commitment of second-echelon divisions into combat;
—composition, missions, landing areas, and the time of insertion of airborne and seaborne assault units;
—locations of army and divisional command posts at the beginning of the operation and the directions of their advance during the operation;
—scale of the operation (depth, frontage, rate of advance, and duration).

The remaining instructions, information, and calculations are given in the written part of the plan, which normally includes:

—best estimate of the enemy alignment of forces, his capabilities, intentions, and possible actions;
—aim and concept of the army offensive operation and targets to be destroyed during the initial nuclear strikes;
—combat composition and combat capabilities of army units and attachments of support arms;
—existence of nuclear and chemical ammunition, the time of their delivery, and their distribution;

—allocation of supporting aircraft flights to the missions and divisions;
—correlation of forces and means of opposing forces and the method of the occupation of staging areas by army units;
—means of ensuring the safety of friendly forces during the delivery of initial nuclear strikes;
—method of executing preparatory and attack support fires;
—establishment and distribution of supplies;
—other matters.

The plan for the army's participation in the initial nuclear strikes is drawn graphically on a 1:200,000 or 1:100,000 scale map with written instructions on the map. It could be prepared also in written form with a map annex illustrating the targets, characteristics, and methods of their destruction.

The plan for preparing and occupying the staging areas is an important and necessary document. It's importance is based on the facts concerning the conditions of possible outbreak of war, the requirements of maintaining the combat capabilities of the troops under the impacts of mass destruction weapons employment, and the need to be in constant readiness to repel the enemy's possible attack. It is recommended that this plan be prepared in graphic form on the 1:100,000 scale map with descriptive instructions written on the map, including the graphic of movement of the units into the attack starting areas. This document illustrates:

—combat formation of first echelon divisions, regiments, and artillery battalions and the method of their movement into specified areas;
—composition and groupings of covering troops;
—locations of second-echelon troops and army reserves and their areas of responsibility;
—fire position areas of rocket and artillery troops;
—positions of air defense units and large units;
—command posts for the army and the divisions;
—areas and lines of construction engineer obstacles and demolitions;
—other instructions.

In the written instructions of the same plan the following are illustrated:

—estimate of the enemy's possible actions in the directions of future attacks, with and without the employment of nuclear weapons;
—missions of army units to repel possible enemy attack;
—object of preparing the staging areas for the troops and basic measures to be taken in their construction;
—character of engineer construction;
—forces and means to conduct engineer works and the time of their execution;
—method of movement into, and occupation of, the staging areas by the army units.

Planning an offensive operation is a very complicated task in the field, and therefore requires precise coordination and decisive troop control by the army commander and chief of staff. A vital role in planning the operation is played by the army's chief of operations who organizes and carries out this task in close coordination with the chiefs of the troop arms and services, as well as with the representatives of the *front's* air army.

To ensure required order in preparing starting data for making the decisions, to organize all documents related to planning the operation, and to take other timely measures to ensure effective and practical planning, it is recommended that a calendar plan for preparation of the operation be worked out in which all measures, including each document of the operation or plan, the specified time and the responsible person for preparing each document, the time of ratification by the chief of staff, and approval by the army commander, are illustrated. The time allocation for preparing the operation is created in tabular forms.

The prepared plan of the army's initial offensive operation, depending on the situation, requirements, and instructions of the General Staff, could be kept at the *front* headquarters, or in sealed envelopes at the army's headquarters. As the situation develops and new information is received, and as the

probabilities of war increase, the necessary modifications and changes are made to bring the plan up to date.

Subsequent offensive operations are planned at the army's headquarters during the course of the termination of the initial offensive operation. The organization of planning the operation should be effected while safeguarding the secrecy of the concept of the operation. Only a limited number of high-ranking personnel from the army's headquarters are employed to prepare the operation plan.

The main parts and basic documents of the army's offensive operations planning are shown in the following table [table 4].

Preparation of the Troops and the Staging Areas For the Offensive

Once the army commander's decision is made, many actions requiring considerable time are taken by the commander, the staff, and other army field troop control elements to prepare the troops and the assembly (FUP) areas for the offensive operation. These actions include:

—issuing missions to the troops and organizing coordination (interaction) among them;
—training and preparing the generals and officers and effecting combat and political training of the troops;
—carrying out reconnaissance;
—engineer construction of troop staging areas;
—preparation and deployment of the army's rear services;
—measures concerning the preparation of troop control;
—providing all types of combat support for the operation.

When preparing the initial army operation, the missions of the army's large units and other units are specified in advance during peacetime, and the method of assigning missions to subordinates is determined by the army commander in compliance with the instructions of the General Staff. In order to ensure the secrecy of the concept of the future operation, only a limited number of the army's staff are allowed to become familiar with the specific missions of army units (i.e., the army commander

Table 4

Serial Number	*Document Name*	*Preparer*	*Format*
	I. GENERAL DOCUMENTS		
1.	Plan of offensive operation	Army staff together with the chiefs of the troop arms and services	Graphically on 1:200,000 or 1:100,000 maps, with written instructions plus the calendar plan (graphics) for preparing the operation
2.	Plan for the army's participation in the initial nuclear strikes of the *front*	Army staff together with the chief of rocket and artillery troops	Graphically on 1:200,000 or 1:100,000 maps, with written instructions or in written form with map annex
3.	Plan of preparing and occupying the staging areas	Army staff	Graphically on 1:100,000 maps, with written instructions on the map
4.	Plan for employment of airborne assault units	Army staff and the representatives of the *front* air army	Graphically on the 1:100,000 map, with written instructions on the map
	II. PLANS FOR THE EMPLOYMENT OF COMBAT ARMS		
5.	Plan for the employment of rocket and artillery troops	The staff of the Army's rocket and artillery troops	Graphically on 1:200,000 or 1:100,000 maps with written instructions
6.	Army's air defense plan	Chief of army's air defense	Graphically on 1:200,000 map, with instructions on the map, plus the alert scheme of the enemy's aircraft
	III. PLANS OF COMBAT SUPPORT MEASURES		
7.	Reconnaissance plan	Reconnaissance department	Graphically on maps with written instructions on the map or in written form with the map annex

Serial Number	*Document Name*	*Preparer*	*Format*
8.	Plan of effecting operational *maskirovka*	Army staff	In written form
9.	Plan of troop protection from mass destruction weapons, and for eliminating the impact of the enemy's nuclear strikes	Army staff with the chiefs of troop arms and services	In written form with map annex
10.	Plan for engineer support	Chief of army's engineer troops	Graphically on 1:200,000 map with written instructions on the map. Special engineer tasks are illustrated on a large-scale map
11.	Plan for chemical supporting measures	Chief of army's chemical troops	Graphically on 1:100,000 map with written instructions on the map
12.	Plan for radio-electronic warfare	Chief of army's radio-electronic warfare	Graphically on 1:200,000 map, with written instructions on the map
13.	Rear service Plan	Army's rear service staff	Graphically on map with written instructions on the map
	IV. PLANS OF TROOP CONTROL AND SIGNAL COMMUNICATIONS		
14.	Plan for preparation, deployment, and movement of command posts	Army staff	Graphically on map with written instructions on the map
15.	Communications plan	Chief of signals	Radio diagram with calculations of the number of radios radio relay diagram, wire communication diagram, the calculation of signal troops on the map. The graphic of mobile means of communication
	V. POLITICAL PLAN		
16.	Plan for political affairs	Army's political department	In written form

and members of the army council, the chief of political affairs, chief of staff, chief of operations, and others).

The missions of the army's large units and separate units are not normally revealed to them during peacetime. Operational orders depicting unit missions are kept in sealed envelopes, bearing the army or *front* headquarters' official seals, in the personal safes of related commanders, and are opened only at the signal of the army commander, based on *front* headquarters' instructions.

In case of great changes developing in the situation, the modification of missions specified in previously prepared documents, and in some instances, the determination of new missions for army units, may become a necessity. Preparing commanders and staffs to accomplish such a task effectively, in a short period of time, has vital practical importance.

When planning subsequent operations, missions are assigned to units directly after the decisions have been made, by written operations orders or orally over communications means, with subsequent confirmation by written documents.

The first priority is that the missions should be assigned to those large units and units conducting the most important tasks or beginning the execution prior to others, or to those that require more time to prepare for the execution of their assigned missions. The method of issuing missions to subordinates should allow sufficient time for subordinates to prepare and execute their combat missions.

In command and staff procedures the issuance of warning orders is widely practiced in order to alert commanders and staffs of large units about forthcoming combat operations and to provide sufficient time for the troops to prepare to execute assigned combat missions. One of the important requirements in issuing missions to subordinates is the timeliness, brevity, and clarity of the content of combat documents (except coded documents).

One of the most important measures in ensuring the preparation of troops to execute their missions in offensive operations is planning for coordination. Coordination is planned in greater detail for participation in the initial nuclear strike phase of the

front, for the first day of the operation, and for the purpose of repelling possible enemy attacks. It is planned in lesser detail, due to difficulties in assessing the situation, for subsequent days of the operation and for the accomplishment of army's immediate mission. Coordination is organized in estimated form for that phase in which the army's subsequent mission is accomplished.

The main points of coordination are specified in the commander's decision, and their detailed and exact illustration is portrayed in the plan of coordination, plan for the offensive operation, plans for the employment of the combat arms and in the plans for combat support measures.

Coordination among army elements is achieved by assigning clear missions to subordinate large units and through mutual understanding regarding the execution of assigned missions. It is always required that in planning coordination, first priority should be given to providing a correct and objectively oriented understanding to the large unit and unit commanders about their missions and the missions of other units and elements with whom they are cooperating in behalf of accomplishing the army's missions.

The army commander, in compliance with the instructions of the *front* commander, and in support of the coordinated employment of forces and means in the initial nuclear strikes of the *front*, specifies the targets, time, and yields of the nuclear weapons to be delivered by the army's rocket brigade and the rocket battalions of the divisions participating in the initial nuclear strikes of the *front*. He also informs concerned units about the level of command having the authority to order the delivery of nuclear strikes and which motorized rifle and tank divisions are to exploit those strikes. The exact time of firing for the army rocket brigade and the rocket battalions of the divisions are calculated and coordinated in accordance with the launch time of *front* rockets and the flight time of the first sorties of the *front* aviation. The army commander also specifies which targets, in what sequence, are to be engaged by artillery and supporting aviation strikes using chemical and conventional munitions.

When organizing coordination between rocket units and supporting aviation, the army commander, in conformity with the instructions of the *front* commander, specifies the targets to be destroyed by each element, the sequence of the strikes, and the type of burst. He also determines the boundaries of aircraft overflights of combat formations, the signals to be employed for the purpose of ceasing fire, and the launch of rocket and tactical air support sorties.

The combat actions of motorized rifle and tank divisions are coordinated with nuclear strikes delivered in their attack sectors. Their operations are also coordinated with each other when accomplishing common missions and/or attacking along adjacent directions. Their combat actions are further coordinated with the operations of aviation and airborne assault units. The security lines of the friendly forces are indicated when using nuclear weapons.

When operating without the employment of nuclear weapons, the most important questions of coordination are: to determine the methods and sequences of neutralizing by artillery and tactical air support the enemy forces positioned in the security zone and in the main defense positions; the passing of state boundaries; the commitment of forward detachments and the main bodies of first-echelon divisions into combat; and the form of destruction of the enemy's first-echelon main forces. To coordinate the operations of attacking [ground and aviation] and airborne assault units, the following are specified:

—drop zones, orientation of insertion, and the method of operation in landing areas;
—method of supporting the flight of airborne assault units over the drop zones by neutralizing the enemy's air defense means;
—missions of aviation units inserting the airborne assault units, and subsequently, their combat operations;
—missions executed by army units attacking in the direction of inserted airborne assault units;
—targets and the time of their engagement by rocket units and supporting aviation, in the direction of the inserted airborne assault unit;

—operations of airborne assault units after linking up with the attacking units;
—methods of mutual identification, target definition, and signal communication.

When coordinating combat operations of army units with air defense forces and means, specify when and what air defense forces and means are to be employed to cover the army rocket brigade, strike groupings of forces, army command posts, and the mobile rocket bases during their arrival in the staging areas and in the course of their offensive operations. The time and method of relocation of positions of air defense rocket units, antiaircraft artillery, and radio-technical subunits (units) are also specified. In addition, the operations of air defense forces and means are coordinated with operations of adjacent army air defense forces and with the operations of fighter aircraft.

When attacking along coastlines, the operations of army units should be coordinated with operations of naval forces concerning delivery of nuclear strikes and seizing coastal objectives; support of landing seaborne assault units and their operations; the seizure of straits; and joint operations to destroy the enemy's seaborne assault units.

When preparing the plan (diagram, table) of coordination, the following should be shown: missions of army elements and other cooperating large units at the beginning and during the course of offensive operations; the method of their accomplishment; and signals for coordination, identification of targets, mutual identification, and mutual alert. For coordination, a special signal communications network is established and liaison officers are exchanged between cooperating large units.

Based on the nature and specifications of future missions, specified methods of coordination in the operation, and combat and political readiness, along with tactical and operational training of the unit and staffs are planned and carried out in peacetime and just before the outbreak of hostilities.

Nowadays more attention is paid to the preparation of attack staging areas specified for the deployment and dispersion of army units, for the establishment of groupings of forces in accordance with the concept of the operation, and for initiating

the attack (for movement to contact and for repelling surprise attacks of superior enemy forces).

Such areas should facilitate simultaneous and organized passage of army units to the offensive and must also provide for their protection against mass destruction weapons if hostilities commence with the mass employment of nuclear weapons. If the enemy initiates the attack, the attack staging areas should provide the capability of conducting a strong defense against the enemy's superior forces.

Engineer constructions in preparing the attack staging areas have particular importance, since they facilitate the organized and timely passage of units to the attack, and the repulse of attacks by large enemy forces. The early construction of engineer works and fortifications helps the activeness of the troops and provides favorable conditions for repelling possible enemy attacks and the passage of units to the attack under any conditions once hostilities commence.

It is recommended that the attack staging areas for first-echelon divisions be prepared 20-40 km from the state boundary, providing protection for friendly forces against the enemy's artillery fires and reducing the enemy's capabilities to employ tactical nuclear weapons.

To facilitate the organized passage of units into the attack, *front* routes, and *rokads,* [lateral routes], column routes, starting lines, initial lines, movement regulating lines, and the lines of deployment of large units to precombat and combat formations, are specified well in advance.

Positions for covering troops, reinforced with engineer obstacles, are constructed one to five km from the state boundary. These positions constitute the security zone. In this zone, firing positions for artillery and divisional rocket battalions, which should engage the enemy during the passage of friendly units to the attack and also during the repulse of the enemy's attack, are prepared. Second-echelon (reserve) divisions occupy staging areas. These areas should provide adequate space for the dispersed deployment of units, the maneuver of second-echelon units to follow attacking columns, and the destruction of attacking enemy formations.

In the attack staging areas, main and reserve (alternate) firing positions for army and divisional rocket units, firing positions for air defense units, positions for radio-technical units, and emplacements for special troops [combat support units], command posts, and signal centers are prepared and telephone lines are installed. Additionally, in attack staging areas adequate positions are constructed for other units and all weapons, including covered trenches, bunkers, shelter for personnel, and trenches for all vehicles and materiel reserves. Maneuver routes, supply and evacuation routes, and obstacle areas are prepared across the entire zone and operational depth of army forces. Preparation of attack staging areas is carried out by forces and means of units in close conformity to *maskirovka* requirements.

The advance of units to, and the occupation of, attack staging areas is executed only by special order of the *front* commander. The units may arrive at these areas either simultaneously or consecutively from garrison location staging areas, or from field exercise areas. If the occupation of attack staging areas is executed consecutively, the first units to occupy them will be first-echelon large units, reserves, air defense units, army command posts, and then the second-echelon large units and the army's rear services. Two nights is sufficient for the army to occupy attack staging areas with considerable concealment.

The army rocket brigade, covering troops, reconnaissance, and radio-electronic warfare units, and the army's rocket-technical base may proceed and occupy their positions in the attack staging areas before the other army elements, by special order of the *front* commander.

Organization of Combat Support Actions

Combat support measures, calculated in detail and organized well in advance, are important factors in achieving success in army operations. Types of combat support measures are the following:

—reconnaissance;
—operational *maskirovka;*

—protection of forces and rear service installations against mass destructive weapons;
—engineer measures;
—radio-electronic warfare;
—chemical, hydrometeorologic, and topographical measures.

The measures for combat support in behalf of army offensive operations, are organized in accordance with the army commander's decision and his instructions. The measures taken in support of combat activities are planned and executed under the direct supervision of the chief of staff.

The army staff plans and directs measures concerning reconnaissance, protection of forces and rear service installations against mass-destructive weapons, radio-electronic warfare, hydrometeorology, and topogeodetic measures. The remaining combat action support measures are organized and executed by the related chiefs of arms and services. Plans are developed for each type of combat support measure and are issued to the units in the form of combat instructions signed by the chief of staff.

The army staff controls and coordinates all actions concerning all types of combat support measures. Special attention is paid to supporting combat activities by the army's forces and means participating in the initial nuclear strike of the *front*, in support of repelling the enemy's attack, and in the quick deployment of the units for rapid passage into attack, with or without the employment of nuclear weapons.

In offensive operations conducted along a coastline, the support of the combat activities by army units is coordinated with the parallel supporting measures planned in support of cooperating naval forces.

Operational Maskirovka

The aim of operational *maskirovka* is to ensure surprise strikes on the enemy, to confuse the enemy about the objectives, place, and time of these strikes, to maintain the secrecy of actual intentions, and to reveal deceptive groupings of friendly forces to the enemy. The basic organizer of operational *maskirovka* is the *front* staff. The army is normally the executor of

tasks specified in the *front's maskirovka* plan. In some situations, however, the army may independently plan some measures to develop and expand the *front's* plan.

The basic forms of achieving the aim of operational *maskirovka* are secrecy, showing deceptive actions, and spreading disinformation. Effective integration of these forms in close accord with the actual situation should deceive the enemy on matters concerning the composition of army forces and means, their locations, their status and capabilities, the concept of future operations, preparations to deliver nuclear strikes, time and place of unit deployment, and the method by which they will initiate the attack. Special effort must be made to deceive the enemy about the location of rocket and artillery positions, the location of the main strike grouping of friendly forces, and the location of command posts.

In the *front's* plan of operational *maskirovka,* the army would be assigned tasks to show deceptive concentrations of forces and other deceptive targets to the enemy in the army's disposition area in support of *front* offensive operations. Exact stereotype actions and forms must be avoided in the organization and execution of operational *maskirovka.* Otherwise the enemy will easily identify the real target from deceptive ones, and consequently the aim of *maskirovka* would not be achieved.

Organization of Troop Control

The organization of vigorous and continuous unit troop control is one of the most important elements in preparing the army operation. Steadiness and continuity of troop control are dependent to a large degree on planned and finely calculated preparations of the command posts, their timely deployment in the staging area, their organized relocation during the course of the operation, early establishment of an effective communications system, and the maintenance of constant high levels of readiness of staffs for troop control. Command posts and signal communications must ensure steady troop control of units during the phase of bringing them to a level of full combat

readiness, during their advance and deployment in the attack staging areas, during their participation in the initial nuclear strikes, during the repulse of a possible enemy attack, as well as during the initiation of the attack by army forces.

To exercise troop control in the army's offensive operation the following system of command posts is established and deployed: main command post, forward command post, rear command post, and in some cases, an auxiliary command post. In some instances the command post of one of the divisions, reinforced in advance by the necessary means of troop control, could be used as an auxiliary command post for the army.

Officers of the forward command post and the rear command post (auxiliary command post) must constantly know the situation in the army and adjacent areas, must be prepared to facilitate the commander's decisionmaking and issue instructions to subordinate units, and should have the necessary troop control documents in their possession. All command posts must be secured against the consequences of the enemy's nuclear and other mass-destructive weapons, should be secure from the enemy's radio jamming, and must be concealed thoroughly and dispersed properly. The command posts must be equipped with the necessary means of troop control (particularly communication means) in such a way that they can ensure the steady, continuous troop control of army large units and units, and, in critical situations, be potentially interchangeable.

To increase the activity and viability of army's troop control, an air command post is established.

The field elements of troop control are distributed at the command posts and are prepared to occupy specified positions on short notice and conduct troop control from the command posts. In case of the sudden commencement of combat action, the army commander, with a group of staff officers, goes to a field command post that has been prepared in advance to ensure troop control.

As the threat of war increases, it is recommended that an operations group, consisting of the officers who will exercise

troop control in the field, proceed well in advance to the prepared command post with the necessary communication means and documents. This group must be able to assist the army commander in troop control during their transition to full combat readiness and during the delivery of initial nuclear strikes and the repulse of an enemy surprise attack.

The method of the displacement of command posts in the course of the operation and measures to ensure the firmness and continuity of signal communication are organized in advance.

The army's signal communication system is an expanded network of all signal lines and main and auxiliary signal centers. It is established in the permanent garrison locations and prepared field command posts of the army and divisions to ensure continuous communications with the troops. The communication system must ensure the alerting of the troops, communication with forces and means participating in the initial nuclear strikes, the repulsion of enemy attacks, [communications] with force groupings as they pass into the attack.

When planning the relocation of the command post, an important consideration will be that the army commander and other key personnel of the army's field troop control should not become isolated from unit troop control at any time. When displacing, command posts are brought close to the units to insure continuous troop control and to reduce the threat of enemy raids on the command posts. The displacement of the command posts is initiated by authority of the higher-echelon commander when the future location of the command post is prepared and equipped with engineer works and signal communications are established. The command group consists of a few officers and communication means and is organized for the army commander. The duty of this group is to provide the commander's communication and command of the units in the situations when he visits his subordinate units.

Maintaining High Troop Combat Readiness

A high level of unit combat readiness is the status of units that provides them with the capabilities to achieve readiness in a timely manner and organize to begin the execution of their missions at the commencement of hostilities and protect themselves from the enemy. A high level of troop combat readiness to carry out combat missions is one of the important requirements and basic preconditions for launching surprise strikes on the enemy, as well as for the successful repulse of possible enemy surprise attacks. At present, the following levels of combat readiness are established in the Armed Forces: constant combat readiness, increased combat readiness, and full combat readiness. [See volume I, chapter 4, for a detailed discussion of combat readiness issues.]

Constant Combat Readiness

Constant combat readiness is the level at which army and aviation units with incomplete organization conduct their planned and routine activities and are in constant readiness to execute combat missions with large units, units, and installations, after they are brought to full strength. At this level of readiness, individual units and subunits conduct on-call duty and can execute combat missions according to plan.

In order to reduce the time of transition of the troops from constant [routine] to full combat readiness, the level of increased combat readiness has been defined.

Increased Combat Readiness

Increased combat readiness of forces and staffs is the level from which they can be brought up to full combat readiness in the shortest possible time. At this level of readiness all large units and units take necessary measures to bring their combat and mobilization readiness to a higher level. On-call units and combat means are reinforced and carry out their on-call service at full combat readiness. The officers are called back from vacations and rest, full combat equipment is issued to them, and

they are ordered to live on post. Twenty-four-hour duty service, guarding and defending vital installations are strengthened and post patrolling is established.

Protection of troops against mass destructive weapons is organized. In the unit staffs, a 24-hour duty service for responsible officers and their relief system is strengthened. That is, the number of duty officers is increased, and they are assigned to work in the command posts. Operations groups with signal communication means are detached to the field command posts.

By the directives of the Minister of Defense and Chief of the General Staff, a number of other measures are taken that pertain to enhancing the combat readiness of rocket units and other large units, and units having incomplete strength, military commissariats, military bases, military depots, and other installations.

All measures taken in behalf of combat readiness should provide for the secret preparation of forces to execute combat missions. The shift of troops to the level of increased combat readiness is normally conducted while they are in their permanent locations [military garrisons]. However, at this level of readiness some units may be moved to other specified areas.

Full Combat Readiness

Full combat readiness is the highest state of readiness, ensuring the rapid commitment of troops to carry out combat missions. Bringing forces to full combat readiness is normally initiated by combat alert and deployment from their military posts. At this level of readiness the units and large units are brought up to full combat strength.

Units having an incomplete organization, and units with lower strength [levels] are hastily supplied by appropriate means from the mobilization reserves until they are brought to full strength at the specified time in accordance with preplanned calculations. The personnel of units and large units, and troops posted near the border are issued ammunition, hand grenades, antigas protective masks, steel helmets, individual first aid packages, and antichemical packages. Groupings of forces and

garrisons located near the state boundaries and covering forces are moved to specified areas, take defensive measures in accordance with the plans, and carry out aerial and ground reconnaissance from within the limits of their respective zone of operations. The aircraft are dispersed, and the staffs take position in prepared command posts to control the execution of instructions issued by the respective command levels.

The transition of units from the state of constant combat readiness directly to full combat readiness can be effected without going through the intermediate state of increased combat readiness. In operational formations, large units' and units' specified plans for bringing the forces to the level of full combat readiness, including the instructions about the actions to be taken and their timing, are organized.

In modern conditions, the execution of all planned actions to bring the forces to the level of full combat readiness is not necessarily conducted exclusively with the assumption that the outbreak of war will be preceded by a period of threat, but it must be noted that in carrying out of these actions the sudden initiation of war by the enemy should also be taken into consideration. Basic actions concerning the increase of force combat readiness to a higher level are the following:

—establishing a well-calculated system of unit alert;
—specifying the areas to be occupied by units in case of combat alert for carrying out tasks concerning their mobilization, and the method of moving the troops to such areas;
—maintaining a level of increased combat readiness when going out for field exercises, moving to training areas, encampments and other off-post areas;
—preparing the weapons, combat equipment, vehicles, and other materiel and technical reserves for combat actions;
—organizing mobilization measures;
—controlling and inspecting continuously the troops' level of combat readiness.

Special attention is paid to the political and psychological status of the personnel. A high morale level is an important factor in troop combat readiness and their combat capabilities.

All actions concerning the shifting of units to levels of increased and full combat readiness must be planned in detail and should be carried out subject to all *maskirovka* requirements.

III. Conduct of an Army Offensive

Operations with the Employment of Nuclear Weapons: Participation of the Army in the Initial Nuclear Strike of the Front *and the Restoration of Unit Combat Effectiveness*

The army's offensive operation with the employment of nuclear weapons begins by the participation of the army's rocket brigade and part of the divisions' rocket battalions in the initial nuclear strike of the *front*. In this way, decisive casualties should be inflicted on the enemy in all of his force dispositions and favorable conditions achieved for the decisive attack by friendly forces.

The initial nuclear strike, delivered in accordance with prepared plans, is the launching of all prepared rockets and mass sorties by *front* aviation to inflict heavy losses on enemy targets.

It is advisable that the initial nuclear strike [by the *front*] be delivered simultaneously with the initial strategic nuclear strike. In this case launching operational-tactical and tactical rockets and the first sorties of *front* aviation supplement the initial strike of strategic nuclear forces. However, this method should be employed only under exclusively favorable conditions, when the nuclear delivery means of the army and *front* have been brought to a level of full combat readiness simultaneously with the preparation of strategic nuclear forces, so they can start actions immediately after receiving the proper signal from the General Staff. Generally speaking, preparation of operational-tactical and tactical nuclear delivery means lags behind the preparation of Strategic Rocket Forces, but the subordination of the launch time of strategic weapons to the launch time of operational-tactical means is not rational. Consequently, the initial nuclear strike of the *front* is often delivered after the strikes of strategic nuclear forces. The lapse of time between the strikes of Strategic Rocket Forces and the nuclear strikes of the *front* and army

should be minimized, as much as possible, by improving the readiness of rocket units and *front* aviation, and by taking timely measures to get the rockets prepared for action at short notice. Moreover, the time of rocket unit deployment in the attack staging area should be minimized.

During the initial nuclear strikes by the *front*, the army's rocket brigade basically engages the enemy's tactical and sometimes operational—nuclear delivery means; corps and division command posts; the forward air control centers directing aircraft on targets; and the main groupings of enemy first-echelon forces confronting the army. The tactical rocket battalions will destroy enemy targets located within their ranges, which would usually be the enemy's first-echelon divisions and their nuclear delivery means.

The method and sequence of employing army nuclear delivery means during the initial nuclear strikes of the *front* are determined in accord with the conditions of their preparation. The rockets of the army rocket brigade and divisional rocket battalions can be launched simultaneously, or only the on-call nuclear delivery means—normally a third of all means allocated to participate in initial nuclear strikes—will begin launching their rockets. The targets engaged by these weapons are normally the enemy's operational-tactical nuclear delivery means and troop control system. The main part of the [army] rocket forces are employed, as they get ready for action, to inflict casualties on the enemy's first-echelon main forces, command posts, and other important targets.

The employment of nuclear weapons against enemy targets should be effected after ensuring the security of friendly forces and their timely warning about the delivery of nuclear strikes. In the course of the initial nuclear strike the enemy should be neutralized to such a degree as to ensure the decisive superiority, in forces and means, of friendly forces over the enemy in order to conduct the attack with a high rate of speed.

At the time of delivering the initial nuclear strike and following the strike, army units might become engaged in repelling enemy air attacks and possibly in repelling his ground force strikes. The repelling of mass sorties by enemy aviation and

pilotless flying means in the army's area is conducted in cooperation with *front* fighter aircraft and air defense rockets.

In instances of mutual nuclear strikes the situation may drastically change. Great destruction, radioactive contamination, flooding, and fires in woods and built-up areas might be created. Suffering casualties as a result of the enemy's nuclear strikes cannot be avoided. Consequently, some of the army's large units and units would be greatly weakened or lose their combat effectiveness.

All the above considerations require that appropriate measures be taken to restore troop combat effectiveness for the accomplishment of assigned missions. The organization and execution of actions necessary to restore the combat effectiveness of units and to eliminate the effects of nuclear strikes requires great efforts to be made by the army commander, the staff and rear services, and the chiefs of the army's troop arms and services, as well as by the units themselves. First of all, it is imperative that troop control (if interrupted or lost) should be restored; information about the situation of army forces, the nature of enemy activities, as well as information about the radioactive situation should be collected; repeated nuclear strikes on the enemy's important groupings remaining intact must be organized and delivered; and the volume of casualties and the degrees of unit readiness should be assessed and the combat mission must be carried out. Based on information collected and assessed about the situation, the army commander can make rational and situation-oriented decisions about future actions by army units. In such a difficult situation the army commander, the commanders of lower-echelon units, and all staff should exert maximum initiative in carrying out appropriate actions to eliminate the consequences of enemy nuclear strike in behalf of accomplishing assigned missions.

After the initial nuclear strike, groupings of forces remaining intact should rapidly initiate the attack from the march to complete the destruction of surviving enemy forces. [See figure 7.] When first-echelon divisions have suffered greatly as a result of the enemy's nuclear strikes, the basic attention of the army

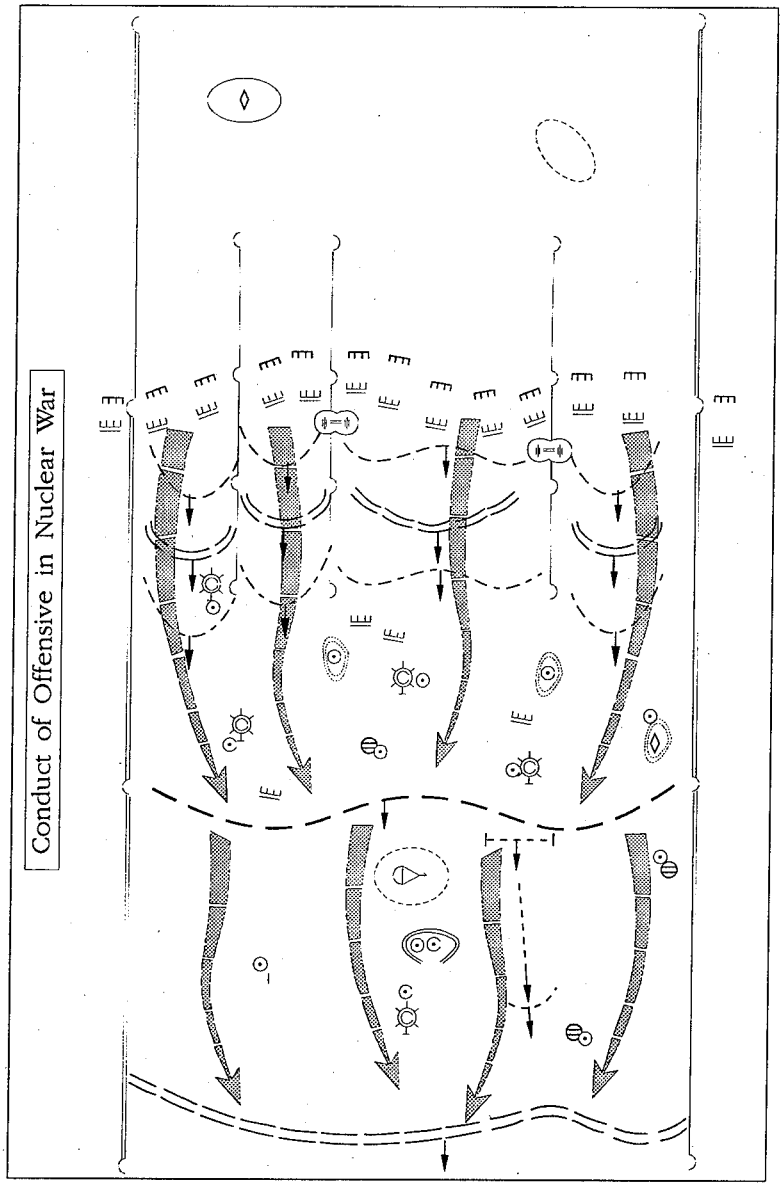

Figure 7. Army Offensive

commander and staff should be concentrated on the identification of large units and units still having combat capabilities and assigning them combat missions to attack and/or to organize for the repulse of enemy attacks if he initiates the offensive. At the same time actions are taken to restore the combat effectiveness of the units and eliminate the consequences of the enemy nuclear strikes.

The restoration of combat effectiveness for all combat units and large units requires that a series of actions be taken, such as conducting large maneuvers by troops, moving material and technical reserves, rescue operations, creating favorable conditions to ensure the accomplishment of combat missions as well as the replenishment of units with personnel and combat equipment, and carrying out repairs and evacuation.

The basic measures to be taken to restore the combat capabilities of units and large units that have suffered from the enemy's nuclear strikes are:

—restoration of interrupted control for large units (units);
—removal of large units (units) from the [nuclear impact zones] in order to continue the execution of combat missions;
—rescue operations in the nuclear impact zone and the evacuation of personnel;
—special decontamination of personnel, weapons and materiels;
—opening lanes and routes from the impact zone;
—delimiting and marking the impact zone.

In case of heavy casualties and loss of divisional integrity, all of its surviving personnel and equipment are integrated into regiments, battalions, and sometimes, detachments. It is recommended that, in some situations, the surviving units and subunits of more than one division (having lost their combat effectiveness) be integrated into one or two divisions.

The method of initiating the attack will be dependent on the results of the initial nuclear strike, the situation and status of army units, and the nature of enemy actions. The army can initiate the attack from the march or from positions in close contact

with the enemy. Attack from the march, following nuclear strikes, can be conducted from the attack staging areas (waiting areas), collection areas, or from concentration areas occupied by units after combat alert. Initiating the attack by army units from positions in close contact with the enemy is usually effected when the strikes of superior enemy forces have been repelled by defensive actions and prior to the commencement of offensive operations.

Destruction of Opposing Enemy Groupings

After the delivery of initial nuclear strikes, the main task of army forces is the destruction of surviving groupings of the opposing enemy in a short time and a rapid advance to the depth of the enemy's dispositions. This task would be carried out in a most difficult situation, since the enemy would also endeavor to inflict heavy casualties during his nuclear attack on friendly forces, particularly during his initial mass nuclear strike.

Undoubtedly, the methods of destroying enemy forces in each direction and the forms of operations by army units will be determined by the amount of enemy losses caused by our initial nuclear strike, the combat effectiveness of army forces, and the relative balance of opposing forces.

In situations in which decisive casualties have been inflicted on the enemy across the entire zone of the army, and when, consequently, the enemy has no more than individual, disintegrated groupings without combat effectiveness in the border areas, combat operations by an army will assume the form of a quick advance of its main grouping in precombat formations and even march formations with a high rate of advance to the depth of the enemy. In this case just a part of the forces will be sufficient to mop up the surviving enemy groupings.

When both sides suffer heavy casualties in more than one direction or across the entire zone of their operations, preempting the enemy in delivering repeated nuclear strikes on surviving enemy groupings; initiating the attack by units that have maintained their combat effectiveness; and eliminating the consequences of enemy nuclear strikes and rapidly restoring the

combat capabilities of unit suffering from the enemy's nuclear fires have a vital importance in developing the attack.

When some individual army force groupings lose their combat effectiveness, and enemy exploitation includes initiating an attack against them by employing forces that have not lost their combat effectiveness, it is required that repeated nuclear strikes be delivered against the most dangerous enemy groupings, and the army's reserve and second-echelon forces should be committed to combat.

It is also possible to assume that the enemy may suffer heavy casualties on one direction while on another direction its groupings maintain their combat effectiveness and are able to launch attacks along the direction. In such cases the army should concentrate its efforts on the rapid delivery of repeated nuclear strikes against enemy groupings which have maintained their combat effectiveness and on conducting rapid attack into enemy territory. After repeated nuclear strikes employing units still capable of combat operations, friendly forces organize defensive actions on the directions of enemy attacks. Therefore, the conditions and forms of actions to complete the destruction of opposing enemy groupings, after the initial nuclear strike of both sides, might differ and vary, as discussed earlier.

In all cases the situation will be extraordinarily difficult and critical for both sides. This requires the army commander to have determination and resolution in organizing and carrying out subsequent actions. The units are required to display high firmness, morale, and decisiveness for the accomplishment of assigned missions by all means. And, finally, the staff is to work to maintain order and organize actions in behalf of the accomplishment of army missions.

Along offensive directions army forces may have to conduct meeting engagements, passing through the enemy's hasty defenses, repelling the enemy's counterstrikes, and then initiating the attack.

The Meeting Engagement

The meeting engagement is a difficult form of combat action, in the course of which both sides try to accomplish their

assigned missions by offensive actions. Meeting engagement usually occurs along the direction of the army's main attack, when both sides have maintained their combat effectiveness and initiate the attack after the initial nuclear strikes.

To destroy successfully the enemy groupings in a meeting engagement, it is required that the decision be rapidly modified or a new decision made, that units be assigned combat missions, that repeated nuclear strikes be delivered on the enemy by all ready launchers of the [army] rocket brigade and division rocket battalions deployed on that direction, and that the results of artillery fire and aviation strikes be fully exploited. The main columns of first-echelon divisions are employed for launching strikes at the flanks and rear of deploying enemy groupings. In such situations, achieving and maintaining the initiative until the complete defeat of the enemy is especially important. In order to isolate the enemy's groupings and to assist the attacking forces, tactical airborne assault units are landed in the rear of the enemy. In a meeting engagement, tank divisions and the tank regiment organic to motorized rifle divisions are employed in the main attack of the army (division) to strike at the flanks and rear of the main enemy groupings and subsequently to develop the attack to the depth and destroy enemy second-echelon forces and reserves. *Front* strikes are launched against the enemy when enemy groupings are weakened by our nuclear strikes, or when the terrain does not favor maneuver to the enemy's flanks and rear.

In the course of offensive operations individual and smaller meeting engagements with enemy reserves are possible. Success in such instances may be achieved by overtaking the enemy in the delivery of nuclear strikes and conventional fires and through the coordination of rapid actions by friendly forces attacking the enemy. To complete the destruction of strong enemy reserves and the exploitation of the attack to the depth, second-echelon divisions or army reserves are committed into combat.

At the beginning of offensive operations, army forces may have to fight an enemy occupying defensive lines. The destruction of such enemy groupings is accomplished by a break-

through and the exploitation of gains achieved in a breakthrough by attacking forces to the depth and flanks of the main enemy grouping having still maintained its combat effectiveness. The nature of enemy defenses in these cases will be a prepared defense or a hasty defense, with or without engineer constructions and fortifications.

In the army's offensive operation with the employment of nuclear weapons the army will often confront a hasty enemy defense, having individual, dispersed strongpoints and defensive areas without sufficient density of unit combat formations across the front and a lesser echelonment of forces in depth. A hasty defense would be organized by enemy large units and units moved up to the front from the rear, or by forces withdrawn from the front and occupying a delaying position. This type of defense should be penetrated from the march, on a wide front, without prolonged preparatory fires. When attacking a hasty defense, the gaps in the enemy's defensive disposition and gaps created by the employment of nuclear weapons during the initial strikes should be exploited fully. Repeated nuclear strikes must be delivered on the enemy's still intact defensive center along the directions of advance prior to the arrival of attacking forces to such areas.

The actions of army forces during the breakthrough of enemy defenses must assume the nature of quick actions combined with maneuver. The first-echelon should not become decisively engaged with enemy units still in defensive positions, but should make every effort to reach the enemy rear quickly, occupy or destroy enemy nuclear delivery means and other targets left intact, in order to deprive the enemy of the opportunity of delivering repeated nuclear strikes and to avoid the organized commitment of the enemy's reserves into combat. The destruction of the enemy forces left behind the army's attacking elements is accomplished by the second-echelon or reserves of the divisions and sometimes by the army's second-echelon and reserves.

Neutralizing the Enemy's Nuclear Delivery Means and Reserves During the Conduct of the Operation

Although the enemy's nuclear delivery means constitute the prime targets of the initial nuclear strike, it is likely that the enemy may keep certain units for future employment and will try to hit the attacking forces with nuclear strikes. Consequently the struggle with the enemy's nuclear delivery means should be conducted continuously in the course of accomplishing the entire mission of the offensive operation. The greater the losses inflicted on them, the more the enemy's nuclear strike capabilities are reduced, and, finally, the success of friendly units is dependent to a large degree on the neutralization of enemy nuclear delivery means.

Locating and destroying the enemy nuclear delivery means in a timely manner is an important task of the army commander and staff in controlling units in the course of an offensive operation. Achieving success in fighting the enemy's nuclear delivery means is ensured by:

—timely location of the enemy's nuclear delivery means and finding the exact coordinates of their dispositions;
—making quick decisions and assigning missions concerning their destruction;
—constant readiness of appropriate units and means to ensure their quick destruction;
—rapid advance of first-echelon divisions, combined with wide employment of tactical airborne assault units and forward detachments and special detachments.

Enemy tactical nuclear delivery means, not having more than 50-70 km range, might be positioned, at the time of employment, 5-8 km from the forward edge. Sergeant and Pershing missiles may be emplaced in firing positions about 30-60 and 80-160 km or more from the forward edge, respectively. The army has organic tactical and tactical-operational rockets that can successfully combat the above-mentioned enemy's nuclear delivery means.

For the purpose of neutralizing enemy nuclear delivery means, the following army units and means can be employed:

army rocket brigade and division rocket battalions employing chemical and nuclear warheads, and supporting aviation, artillery, tactical airborne assault units, and diversionary-reconnaissance groups. During the rapid development of the attack the struggle with enemy nuclear delivery means can be conducted successfully by tank and motorized rifle divisions. For this purpose, forward detachments and special detachments are designated.

The successful development of the attack cannot be achieved without the destruction of enemy reserves. The struggle with the enemy's reserves in an army offensive operation is begun by inflicting casualties on them during the initial nuclear strike. But, since the enemy would echelon its combat grouping, and would deploy his reserves well dispersed across the front and in depth, he may succeed in keeping a part of his reserves intact. He also will have the capabilities to replenish and resupply them from mobilization resources or by moving in forces from other directions. The enemy's reserves might be employed for the following purposes:

—to reinforce or relieve weak groupings or groupings that have lost their combat effectiveness;
—to cover gaps created in the operational dispositions of the enemy's forces;
—to occupy vital defensive lines in the rear;
—to repel an attack by friendly forces;
—to launch counterattacks and counterstrikes against attacking forces.

The army commander and staff must watch the situation and status of the enemy reserves constantly, should make timely assessments of their maneuvers, and should determine the nature of their possible actions and the best form of their destruction.

Enemy reserves can be neutralized by delivering mass nuclear strikes on them by rocket units and supporting aviation while they are located in staging areas, and during their movement and deployment for committing into combat. This is the most effective technique for inflicting decisive casualties on the

enemy in a short time. But the use of this method requires the availability of a sufficient number of nuclear and chemical weapons and their delivery means. The destruction of the enemy's reserves is usually achieved by nuclear and chemical strikes combined with rapid advances and decisive strikes by motorized rifle and tank divisions.

The heaviest struggle with enemy reserves is conducted when the enemy succeeds in delivering his planned nuclear strikes followed by launching strikes against friendly forces with his reserves. To defeat such an enemy counterstrike, timely strikes are required on the enemy's nuclear delivery means and his groupings of forces preparing for the counterstrike. To inflict maximum casualties on the enemy, it is necessary to hit him with massive strikes by all available and prepared nuclear, chemical, and conventional delivery means, followed by quick actions of motorized rifle and tank divisions to accomplish the destruction of the enemy's counterattack groupings. Friendly forces must widely employ maneuver to outflank enemy groupings deploying for counterattack.

When the enemy succeeds in launching counterattacks (counterstrikes) the destruction of his counterattack forces is achieved by delivering nuclear strikes, followed by meeting engagements by the army's main forces, or by temporarily assuming defense by part of the army forces on the direction of the enemy's main attack, combined with the development of the attack on other directions in an effort to outflank the enemy's counterattack groupings.

Commiting Army Second-Echelon (Reserves) into Combat and Developing the Attack

The army's second-echelon (combined arms reserve) is normally committed into combat to develop the attack in the direction of the army's main attack. [See figure 8.] The meaning of developing the attack is to expand the efforts of first-echelon forces, to increase the rate of advance in order to accomplish rapidly the destruction of opposing enemy forces and reserves, and to reach and occupy quickly the areas by which the aim of the operation is achieved.

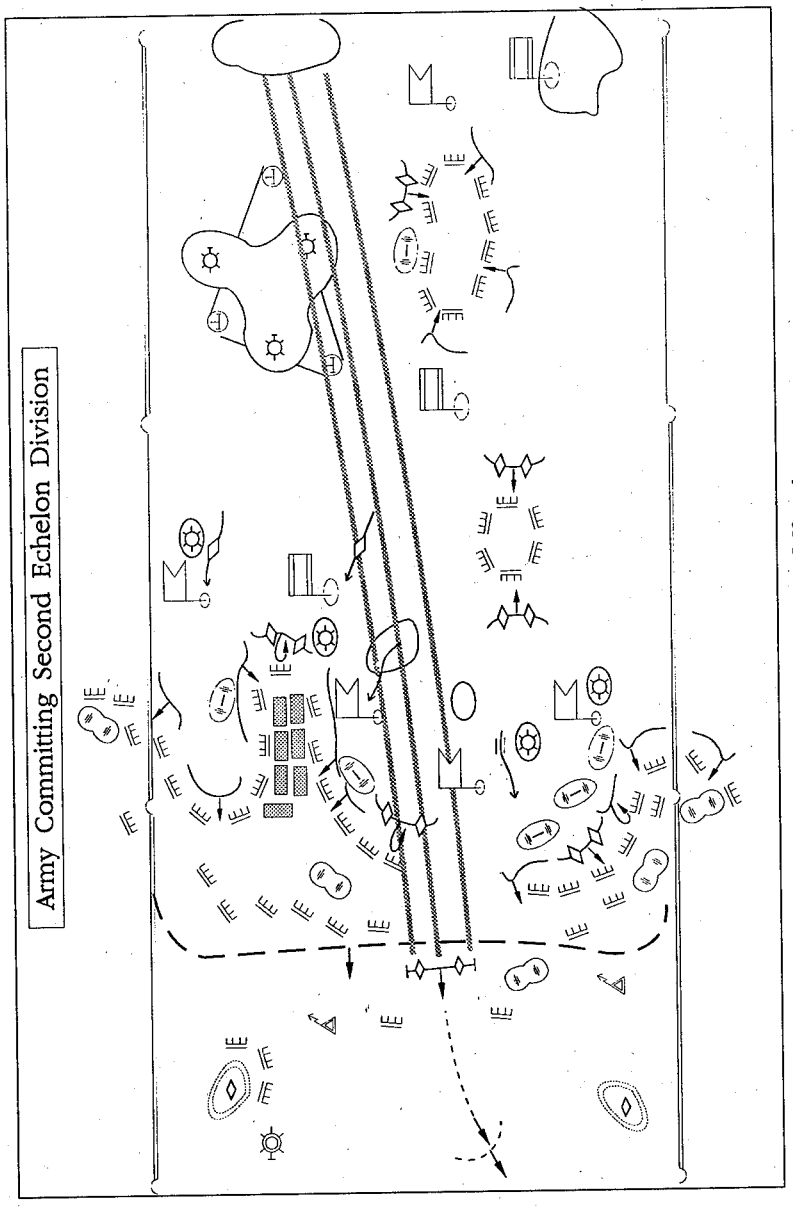

Figure 8. Army Offensive

The expansion of efforts on the direction of the army's main attack is achieved by delivering repeated nuclear and chemical strikes and by commitment of additional forces, i.e., the second-echelon (combined arms reserves), into combat. The army's second-echelon can be committed at the end of the accomplishment of the immediate mission or for accomplishing the army's subsequent mission. The army's second-echelon forces may be employed to reinforce the striking power of first-echelon forces during the destruction of the enemy's reserves. They could also be employed for shifting the army's main effort from one direction to another, and to reinforce first-echelon forces that have suffered the most casualties from the enemy's nuclear strikes.

When the army has two divisions in its second-echelon, their commitment into combat may be effected piecemeal or simultaneously on one or two directions. The commitment of the army's second-echelon into combat is usually effected by its advance from the depth, subsequently deploying into combat formations from the march, in close consideration of the composition and nature of the enemy's actions and the degrees of his neutralization by nuclear strikes.

It is better to commit the army's second echelon (combined arms reserves) on the direction that favors its rapid advance in depth and its arrival at the flanks and rear of the enemy's groupings to accomplish their destruction. In this case, to facilitate the higher rate of advance, it is required that the gaps and boundaries in the enemy's dispositions and the areas weakly covered, are exploited to a great extent.

Prior to the commitment of the second-echelon (combined arms reserves) into combat, the army commander reconfirms the previously assigned combat mission, the direction of commitment into combat, attachments, targets, and the time of striking them by army means. Additionally, the army commander must specify the following:

—the number of nuclear rounds, their yields and time of supply;
—the method of advance and deployment of second-echelon troops to be committed into combat;

—coordination with the first-echelon divisions, supporting aviation, airborne assault units on the related direction (if any), and the measures to support the commitment into combat.

Advance of the second-echelon (reserve) division to the line of commitment into combat is conducted on several routes, prepared in advance by army units. If necessary, prior to the commitment of the second-echelon (reserves) into combat, nuclear strikes are delivered on the enemy by the army's rocket units and supporting aviation, and sometimes even preparatory fires are carried out.

The targets for nuclear strikes to be destroyed in this phase are the enemy's nuclear delivery means, command posts, and those main enemy groupings maintaining their combat effectiveness on the direction of commitment of the second-echelon into combat.

Following nuclear strikes, the first-echelon regiments of divisions may operate in march columns, precombat formations, or combat formations. Exploiting the gaps created by nuclear strikes, [as well as] breaks and boundaries in the enemy's dispositions, the regiments accomplish the destruction of the enemy's surviving troops by decisive and quick actions. They move with high speed to the rear of the enemy and occupy the assigned objectives.

If during the commitment of the second-echelon into combat or during subsequent combat operations, the enemy begins withdrawal or passes over to delaying action, the division units rapidly begin pursuit of the enemy and, together with other first-echelon divisions, accomplish the destruction of the enemy. Pursuit of the retreating enemy is conducted by the army forces at high speed, continuously in day and night until the complete destruction or surrender of the enemy. Pursuit of the enemy may begin in different phases of offensive operations with the attackers at different depths, simultaneously across the entire zone of the army, or at different times along different directions of attack. The basic form of pursuit is following the enemy along parallel routes (directions) combined with enveloping the retreating enemy from one or both flanks. In any case, army

forces should continue the frontal pursuit and maintain contact with the enemy. The rate of advance of army forces in the pursuit phase must be higher than the rate of retreat of the enemy. This will facilitate overtaking the enemy's march columns and will prevent the enemy from establishing new defensive lines and showing organized resistance.

In the course of developing an attack, the army, particularly the tank army, might be forced in some situations to change the direction of the main attack as a result of rapid changes in the situation. The shift of the army's main attack to another direction must be accomplished in the shortest possible time, secretly, by surprise, and without decreasing the units' rate of advance on the direction. This could be achieved by the mass employment of nuclear weapons and the commitment of the second-echelon (combined arms reserves) into combat on a new direction of main attack. In this case, first-echelon divisions may be oriented to the direction of the main attack and elements of them can be allocated to reestablish the second-echelon or combined arms reserves of the army. In all situations, after the commitment of the second-echelon (reserve), new second-echelon (reserve) forces must be established by withdrawing some divisions operating on other directions, or by employing divisions newly attached to the army by higher echelons.

Passing Through Nuclear Mine Obstacles, and Contaminated and Destroyed Areas

In the course of offensive operations, army units would be forced to pass through the enemy's nuclear mining obstacles and also through radioactive and chemically contaminated areas, and other [areas of] great destruction and obstruction. The enemy may lay nuclear minefields near its borders as well as in depth around its positions. The army is required first to locate quickly the areas prepared for nuclear mining or actually established nuclear minefields, controlling devices of their detonation, and the depots of nuclear mines. Based on this information, specific measures should be determined for occupying them, or avoiding the detonation of the enemy's nuclear demolitions.

By the commencement of operations, the enemy's nuclear mine depots as well as the areas where they are laid can be destroyed by rocket units and supporting aviation strikes. They can also be occupied by airborne assault units, forward detachments, and special detachments detached by the first-echelon divisions.

If the enemy succeeds in detonating nuclear mines, large contaminated areas and destruction would be created across the army's zone of operation, which would need to be passed through in the course of offensive operations. Contaminated areas and destruction may be created as a result of the enemy's surface nuclear bursts and chemical strikes, as well. The success of unit actions in passing through contaminated terrain areas and large-scale destruction is achieved by:

—continuous radiation, chemical, and bacteriological reconnaissance and forecasts of the radioactive situation, in consideration of their impact on the troops;
—timely informing of subordinate units about the radioactive, chemical, and bacteriological situation;
—quick action by units along directions having lower levels of terrain contamination;
—assessment of personnel radioactive doses and taking measures to maintain their combat capabilities;
—selection of safer directions for passing through contaminated areas and destruction;
—timely employment of individual protective equipment and antiradiation materials by personnel;
—special importance is related, in this case, to engineer measures for carrying out partial or full decontamination of personnel, weapons, and combat equipment, as well as the strict organization of the commandant's services.

Under all conditions, the passage through contaminated areas and areas of destruction is organized in such a way that it does not decrease the rate of the units' advance, so that army forces get minimum doses of radiation, and have the capability to continue the attack with a high rate of speed, after passing through the same areas.

The forms of passing through such areas are determined in relation to the operational and meteorological situation, the degree of radiation or the density of contaminated materials, the degree and characteristics of destruction on the routes (directions) of advance, the created obstacles, fires, residual contamination in the air, the nature of the terrain, and the activities of the enemy in the contaminated areas.

When organizing the passage of units through contaminated areas, the general external doses of personal radioactive contamination, which may not decrease their combat capabilities, must be considered. These are as follows: one occasion (in the course of four days)—100 roentgens; in three months—200 roentgens; in one year—300 roentgens. Army units may pass through contaminated areas on the march, without waiting for a decrease of radiation; bypass areas with high radiation density; or may combine both forms, passing through and bypassing such areas.

When passing through contaminated areas, it is recommended that tank regiments and tank divisions move along directions with a higher density of radiation, since the personnel of such units are better protected than those of motorized rifle units. The troops should move through the contaminated areas at high speed, with large intervals between units and vehicles. Personnel should wear their personal protective equipment at this time. Some separate subunits and units, command posts, rocket pads, and nuclear rounds are moved by air transport means.

The Employment of Tactical Airborne Assault Units and Airborne Assault Large Units

In the army's offensive operations, in order to exploit the results of nuclear strikes on the enemy in a complete, and timely form, the use of tactical airborne assault units and airborne assault large units is widely employed in modern times.

The tactical airborne assault units, composed of a reinforced motorized rifle company up to motorized rifle regiment, are employed to destroy the enemy's nuclear delivery means, command posts, and small surviving groupings of the enemy; to

avoid the maneuver of enemy units and means still maintaining their combat capabilities; to assist first-echelon divisions in the occupation of [line of] communication centers and water obstacles, as well as for passing through radioactive contaminated areas and obstacles—in first priority through the enemy's nuclear minefields.

Special importance is given to the employment of landing assault brigades that are landed following nuclear strikes for the purpose of destroying enemy nuclear delivery means and his nuclear and chemical depots, destroying enemy command posts and air defense means, and for the purpose of occupying bridges, mountain passes, and other important objectives. In some situations airborne assault large units are employed to accomplish missions in occupying and holding vital areas and lines in the rear of the enemy, covering the exposed (open) flanks of army groupings, fighting enemy reserves, airmobile units, and airborne/seaborne landing troops.

The high mobility of landing assault brigades helps them to conduct combat operations from the air and on the ground in close coordination with motorized rifle and tank divisions, airborne assault units, rocket and artillery troops, and aviation; to deliver rapid surprise strikes on the enemy in required areas, and to be reoriented quickly to accomplish missions on other directions and areas. It is recommended that such units be employed, following nuclear strikes, as separate units or at most, in a large unit.

Operations Without the Employment of Nuclear Weapons

Success in conducting army offensive operations employing conventional weapons is largely dependent on ensuring surprise air strikes; initiating surprise attacks by friendly forces; and on active and decisive actions by the army's large units and units.

Since the enemy possesses strong groupings of air and land forces with high levels of combat readiness, efforts to defeat an enemy surprise attack are of vital importance in offensive operations without the employment of nuclear weapons.

Repelling the Enemy's Aggression and Defeating His Attack

Repelling enemy aggression and defeating his attack without employing nuclear weapons is a difficult task. This can be accomplished successfully by the coordinated efforts of combined arms and tank armies, *front* aviation, and *front* air defense and rocket forces. The basic mission of the army in this case is to repel the enemy's aggression, to defeat the attack of his armed forces, and to damage his aviation groupings in close cooperation with *front* aviation and *front* air defense troops.

The forms of repelling enemy aggression and defeating his attack can be different, and will depend on the situation at the outset of hostilities, the relative balance of opposing forces, the level of combat readiness, and the disposition of friendly and enemy forces.

According to the experience of recent wars and operational training exercises, the repulse of the enemy's aggression and the defeat of his attack can be achieved, first of all, by preempting the enemy with surprise strikes and by destroying his forces before they are fully prepared for combat operations. This can be achieved by massive air strikes on the enemy's command posts, airfields, and groupings of land forces. By employing artillery fires and rapid actions of tank and motorized rifle divisions, the resistance of the enemy's covering force can be broken by forces attacking from the march, favorable terrain features (lines) can be seized, and, finally, the enemy's main groupings of forces can be destroyed by strikes to their flanks and rear.

When the enemy succeeds in initiating an attack without superiority in forces and means, his destruction can be achieved in a meeting engagement. To do so, it is necessary to force the enemy to deploy at a disadvantage by the actions of forward detachments, to disrupt his combat formations by air strikes and artillery fires, and finally to destroy him in a meeting engagement.

When the enemy initiates aggression with large forces, the repulse and eventual defeat of his attack is achieved by defensive actions. In this case it is required to stop the enemy in front

of prepared defensive lines by stubborn defensive actions, to inflict heavy casualties, to change the relative balance of forces in favor of the friendly force, and finally, by committing reserves, to initiate a decisive counteroffensive.

Initiating the Attack by Army Units

Initiating the attack by army forces, without the employment of nuclear weapons, is often conducted from a staging area that provides the potential for large units to organize and assume combat formations for the attack. In this case the main forces of the army will initiate the attack from positions not in contact with the enemy. It is also possible that the attack may be initiated by army forces from positions in contact, following the successful repulse of the enemy's attack on our territory.

The method of deployment of army units for the attack is specified, and artillery and aviation strikes on the enemy are organized on the basis of the above-mentioned situations. Preparatory fires normally precede the attack. The basis of preparatory fires are artillery fires and air strikes.

The main targets to be neutralized or destroyed by artillery fires are the enemy's tactical nuclear delivery means, artillery and mortar batteries, tanks, antitank weapons, and enemy personnel and weapons located on the attack directions of army units, as well as command posts and radio-technical means.

The targets to be destroyed by supporting aviation are the enemy's nuclear delivery means, artillery batteries, command posts, reserves, and other targets, preferably those located beyond the range of artillery. The enemy's covering forces, possessing fewer troops, are destroyed by forward detachments of first-echelon divisions, supported by artillery fires and air strikes. The size of a division's forward detachment may vary from a reinforced tank or motorized rifle battalion up to a reinforced tank or motorized rifle regiment.

The main forces of first-echelon divisions move in march columns in this situation, and are ready to develop the actions of the forward detachments and exploit their success by rapid advance in depth. The deployment of division main forces into

precombat and combat formations is dependent on the extent of [combat requirements] and the composition and degree of enemy resistance. In situations in which border areas are covered by strong enemy forces, it is required that not only forward detachments, but all units in main bodies of first-echelon divisions, deploy to destroy the enemy covering forces.

While passing through the enemy covering zone, the actions of forward detachments and first-echelon regiments must develop in such a way that they can be further integrated into appropriate groupings once they come in contact with main enemy forces, in order successfully to accomplish missions to destroy them.

The destruction of enemy first-echelon main forces is accomplished by meeting engagement (if the enemy initiates the attack in the army's area) from the march or by breaking through the enemy defense. In determining the method of initiating the offensive by army forces from positions in contact, once the enemy's strikes have been repelled through defensive actions, it must be noted that the organization of the attack and the formulation of required combat groupings of army forces for the attack are to be anticipated and conducted in the course of defensive combat. The attack should be initiated from defensive positions only when the enemy has suffered heavy casualties, has lost his capability to continue the attack, and has not yet succeeded in establishing the required groupings of his forces to be able to repel the coming attack of friendly forces.

An attack from positions in contact with the enemy is initiated by delivering heavy air strikes on the enemy's most vital targets and by bringing preparatory fires on the enemy in the directions of the army's attacks (strikes). In this case the strikes are usually launched against the most sensitive points in the enemy's combat formations.

Destruction of the Enemy in a Meeting Engagement

The characteristics of a meeting engagement are:

—continuous and strong efforts to gain time and to seize and retain the initiative;

—limited time available for the organization of combat action;
—rapid and drastic situation changes;
—development of combat actions with higher rates of speed;
—deployment into combat from the march column and wide use of maneuver.

The decisive factor ensuring success in a meeting engagement is to forestall and overtake the enemy in delivering air strikes, in opening artillery fires, and in deploying the main forces of the first-echelon division in favorable lines.

Preceding the attack of the divisions' main forces in the meeting engagement, preparatory fires should be conducted to neutralize enemy artillery, command posts, antitank guided rockets, tanks, personnel, and other targets located on the direction of friendly forces' actions. The preparatory fires are not usually lengthy, because the enemy will not be in covered positions but in march formations. Even if the enemy takes up the defense, his fire system and engineer defensive fortifications still will not be prepared. Thus, it is required that short but strong fire strikes (lasting 10-15 minutes) should be brought on the enemy. During this period of time the battalions are able to accomplish their deployment for the assault.

In the meeting engagement efforts must be made to establish decisive superiority in forces and means over the enemy on the main attack direction and other attack directions, in order to ensure rapid and bold maneuver, particularly by tank divisions and regiments on such directions, and to achieve their rapid arrival on the flanks and in the rear of the enemy for launching decisive strikes against him from different directions. The attack directions of first-echelon divisions should be selected to ensure wide maneuver of forces and means and to provide conditions to exploit open flanks and gaps in the enemy's combat formations.

The best method for destroying the enemy in a meeting engagement is to launch heavy strikes by entire tank divisions and regiments on the weak flanks of the main enemy groupings, before they manage to deploy for action, combined with the timely fixing of the enemy and striking him from the front as well.

Units launching meeting engagements should penetrate from the march into the intervals between enemy columns, divide them into pieces, and destroy them. Units attacking on other directions must attempt to outflank enemy main forces as deeply as possible by employing flanking maneuver and envelopment and finally destroying them by striking them on their flanks. This form of destroying the enemy in a meeting engagement is effective only when his groupings are moving on a broad front and the situation of friendly units and the terrain allow maneuver to the flanks of the enemy's groupings.

In situations in which the position of the army's attacking forces or the terrain conditions do not allow flanking maneuver and envelopment on both flanks of the enemy, the army's main forces may strike the enemy on one flank, combined with holding the enemy's main grouping from the front by a part of the army's forces.

When striking the enemy groupings on the flanks and rear is not possible, their destruction in a meeting engagement can be achieved by frontal strikes to divide the enemy into pieces and destroy him piecemeal. In all cases attempts are made to prevent the enemy from taking up the defensive.

In the course of a meeting engagement with the enemy's first-echelon forces, fighting his reserves and forces on other directions, and regrouping for combat must be conducted simultaneously. Preventing their approach to the combat area is achieved by supporting aviation strikes, actions of airborne assault units, and by rapid advance of first-echelon divisions to separate the enemy's first-echelon main forces from their approaching reserves.

If, by the time operations begin, the enemy passes into the defensive in the army's area, army forces would have to break through the enemy defense and destroy the opposing forces.

Destruction of an Enemy Grouping Taking up Defense Action

In offensive operations, army forces may confront the enemy defense both in the border areas as well as deep inside enemy territory. Therefore, the destruction of the enemy's defending

groupings might be accomplished both at the beginning as well as in the course of the offensive operation.

Breaking through the enemy's defense, without the employment of nuclear weapons, is a very difficult task and requires detailed preparations and great concentration (density of artillery, tanks, and motorized rifle units in the penetration areas).

At the start of war the enemy's defense will have various degrees of preparation, including defensive positions prepared in advance. Therefore, the enemy's defense will have varying characteristics concerning the density of forces and means, various engineer defensive works, defensive positions, and defensive areas, and sometimes will have an incomplete fire system. The possibility that the enemy will have prepared defenses on important and vital directions is likely.

The enemy may determine, in peacetime, the lines to be occupied along with fire and obstacle systems, and can rapidly fortify his positions with engineer works. Moreover, modern forces are capable of rapidly moving to defensive areas and establishing defensive positions with a high density of antitank weapons and strong fire systems. This means that attacking forces of the army may confront strong and well-prepared enemy defenses, which will have considerable resistance against massive strikes by tank and motorized rifle units. The destruction of such enemy forces requires the execution of preparatory fires and the mass employment of forces and combat means. Success in breaking through enemy defenses is ensured by the following:

—proper selection of penetration areas;
—detailed organization of reconnaissance to learn about the enemy and terrain on the directions chosen for main strikes by friendly forces;
—establishment of the required superiority of forces and means and the rapid creation of necessary groupings of troops and means;
—sufficient neutralization of enemy forces in penetration areas and on their flanks, by fires of artillery, tanks, and infantry fighting vehicles;

—neutralizing the enemy's tactical reserves and command posts by artillery and air strikes;
—rapid attack by first-echelon tank and motorized rifle units;
—continuous support of attacking forces by support fires;
—timely reinforcement of troops.

The penetration areas are specified on the direction of the army's main attack, based on the concept of operation. Such areas must ensure the effective employment of all arms, particularly tanks, artillery, and aviation; the establishment of necessary force groupings in short times; the potential for committing large second-echelon units into combat to exploit the attack; and limitations and difficulties affecting the enemy's immediate tactical reserves.

The army commander, when assessing division attack directions and the frontages of penetration areas, must consider the combat and maneuver capabilities of each large unit, the capabilities to reinforce them, the establishment of the required concentration of forces for penetrating enemy defenses, and the threat of enemy employment of nuclear weapons.

The duration of preparatory fires depends on the nature and characteristics of the enemy's defense, the availability of artillery means, and the time required for sufficient neutralization of the enemy. In preparatory fire, tanks and antitank guided rockets are employed to destroy enemy individual targets and inflict damage on enemy weapons by direct fire.

During artillery preparatory fires the enemy's basic resistance points (platoon and company defensive positions) located on the forward edge and immediate depth, as well as the enemy's artillery and mortar batteries, must be neutralized, and the enemy's nuclear delivery means, immediate reserves, artillery, and command posts must be destroyed.

In situations in which the enemy, defending in the forward defensive area, is located 15-50 km from the frontier, army forces are required initially to pass through the enemy's covering zone under air cover and with artillery fire support. In this phase, the difficulties confronting the army will be the following: enemy artillery can deliver fire strikes on march columns of army forces to a depth of 20 km with his 175 mm guns, and to a

depth of 12 km with his 155 mm howitzers from the forward edge of the forward defensive area.

The basic means of neutralizing enemy artillery in this phase is air support. To neutralize enemy artillery located in the forward defensive area it is recommended that long-range artillery units be attached to the divisions attacking in the first-echelon. In this case the divisions are reinforced by the long-range artillery organic to the army artillery brigade and Supreme High Command artillery division, if available.

Assault on the enemy must begin simultaneously and at a specified hour. In all conditions, tank and motorized rifle units are to penetrate rapidly through the enemy forward edge, destroy surviving enemy personnel and weapons, and rapidly break through the depth of enemy defenses, exploiting gaps in the enemy's combat formations and areas thinly occupied by enemy forces.

The speed of breaking through enemy defenses depends largely on the degrees of its neutralization. To ensure a high rate of speed in breakthrough, it is required that the enemy defense must be sufficiently neutralized in its entire tactical depth, both prior to the assault and in the course of conducting the attack. Since the enemy is widely equipped with antitank weapons, their neutralization is of prime importance. In order to achieve this, it is required that enemy company defensive strongpoints, which contain numerous short range antitank weapons, be neutralized, and the enemy's battalion and brigade antitank weapons, positioned out of the companies' strongpoints, be destroyed.

The destruction of the defending enemy must be done in detail. For this purpose, mass air strikes and artillery fires are employed, as well as rapid actions of army forces. The enemy's defensive lines must be isolated from one another, and the enemy should not be given the opportunity in the course of the combat to reinforce their effort on the vital directions. Therefore, in the course of breaking through the enemy defense, unit main efforts must be concentrated for the rapid development of the attack to the depth of the enemy's dispositions.

The air support must strike the enemy's reserves in depth and prevent their movement to the areas of combat operations. To accomplish this task, an important role can be played by multirocket artillery, which has great capabilities for conducting fire attacks on enemy reserves. The attack must be developed along the specified directions, bypassing enemy resistance centers and strongpoints. In the course of conducting the attack, all measures must be taken to prevent the enemy from organized occupation of defensive lines in depth. The enemy's attempt to block or impede the advance of friendly forces in order to gain time to take up the defense in prepared defensive positions (lines) must be neutralized by employing air strikes and artillery fires, by assault landing airborne units, and by rapid and bold actions of tank and motorized rifle divisions and regiments. In such cases, it is required that artillery and air strikes be delivered on the enemy's defensive lines prior to the arrival and deployment of friendly forces at such lines to ensure the passage of units through the enemy defenses from the march, and to facilitate rapid destruction of enemy groupings defending such lines.

After penetration through the enemy defense, attacking forces should rapidly develop the attack to the depth, expand the penetration to the flanks, conduct the pursuit of the enemy, and destroy the enemy's retreating forces and approaching reserves.

Destroying Enemy Reserves and Repelling Enemy Counterstrikes

In modern times the enemy is far more capable than in previous wars of concentrating forces from the depth and maneuvering reserves to the front. The enemy may employ his tactical and operational reserves to accomplish different missions. In favorable conditions the reserves are employed for counterattacks and counterstrikes. Under unfavorable conditions, the reserves are employed for the occupation of intermediate defensive lines at the rear of retreating forces of its first-echelon, or for the reinforcement of first-echelon units on critical directions.

Depending on the composition and the nature of the employment of enemy reserves, the form of their destruction in the

course of conducting the army's offensive operation is determined. The most difficult form of destroying enemy reserves is confronted when the enemy launches a counterstrike. It must be noted that the enemy's counterstrikes will be combined with strong aviation strikes and the mass employment of artillery. Therefore, one of the most important tasks in the course of conducting the operation will be inflicting heavy casualties on enemy reserves and foiling the success of the enemy's preplanned counterstrike. To fulfill this task, vital roles are played by mass air support strikes on approaching enemy reserves advancing from the rear; inflicting heavy damage on deploying units by artillery fires, as well as by the rapid advance of attacking forces, particularly tank divisions and regiments; and finally by preempting the enemy in seizing favorable lines.

When the enemy's counterstrike cannot be avoided, the destruction of his counterattacking forces is attempted by meeting strikes with friendly attacking forces, or the taking up of defensive action by a part of forces, on the direction of the enemy's counterstrike, in order to inflict heavy casualties on the enemy from defensive positions and, subsequently, resuming the attack. Simultaneous with the repulse of the enemy counterstrike, it is required to develop the attack on other directions to the depth. To destroy enemy counterattack groupings and for developing of the attack, an army second-echelon division can be committed into combat.

Assault River Crossing During the Offensive Operation

In the course of conducting offensive operations, army units may be forced to cross a large number of rivers and canals having different widths, depths, current velocities, and other characteristics. Undoubtedly the enemy will exploit such obstacles in defensive actions as strong natural barriers on advance directions of attacking forces. An assault river crossing must be conducted by surprise, on a wide front, and at a high rate of speed from the march as the units approach the water obstacles. The crossing unit must be capable of continuing the development of the attack at the far bank.

The important task of army forces is to destroy the enemy prior to arriving at water obstacles, so that the enemy is not allowed to withdraw to the water obstacle. Army forces should also destroy enemy reserves, located to the rear of a water obstacle or approaching toward the water obstacle from positions in depth.

In order to inflict heavy damage on retreating enemy forces and reserves approaching toward the river, air strikes by supporting aviation are employed. The air strikes neutralize enemy nuclear delivery systems and his main withdrawing groupings, especially when they are concentrating on the crossing sites at the river. Airborne assault units may be employed to stop the approach of enemy reserves. They also seize and hold existing bridges and crossing sites and also seek to avoid the destruction of hydrotechnical installations, which, once destroyed, may cause flooding and make the river crossing very difficult.

Success in assault river crossing from the march is ensured by advance preparations made during the approach by attacking forces to the water obstacle. To serve this purpose, the crossing areas of each division and the form of their approach to the water obstacle are specified in advance; assault crossing means are moved forward; maneuver of pontoon vehicles and their rapid advance toward the crossing zones is ensured; commandant's services are established along the directions of advance and at the crossing sites; and the crossing areas and approaches leading to them are sufficiently covered by air defense units and fighter aircraft.

The army commander makes the decision for assault river crossing well before arrival at the river, and combat missions are assigned in such a way that subordinates have sufficient time for the accomplishment of all preparatory actions. Advance seizure of intact bridges and crossing sites over the river is of special importance in successful river crossing. This task may be assigned to airborne assault units as well as to forward detachments or special detachments organized by first-echelon divisions. If on one of the directions, the units do not succeed in the assault river crossing from the march, the river crossing of these particular units is reorganized with brief preparations. In the

latter case, preparatory fire is carried out before the units begin crossing the river. At the beginning of an assault river crossing, the enemy's fire systems on the far bank should be sufficiently neutralized. The crossing units of first-echelon divisions accomplish the destruction of enemy forces on the far bank and continue to develop the attack to the depth of enemy dispositions.

Characteristics of Night Attacks

The attack of army forces in offensive operations must be of a continuous nature, carried out day and night. The experiences of the Great Patriotic War indicate that active actions by attacking forces at night would not allow the enemy to take advantage of the night to restore his defenses, to consolidate and fortify defensive lines, and to take other measures concerning the reinforcement of his units' resistance capabilities against attacking forces. Night combat operations increase the depth of 24-hour missions and enhance the average rate of attacking units' speed in offensive operations.

Night vision devices, which the unit combat vehicles are equipped with, ensure observation of the battlefield and accuracy of fire by all types of weapons during darkness. The presence of night vision devices in units favors tanks, BTRs/BMPs, and motor vehicles driving at night and ensures their unimpeded march and rapid maneuver in darkness.

The army commander must specify in a timely manner what missions by which forces and means are to be accomplished at night, and what measures ensuring night troop actions should be taken by the troops. It must be also noted that, despite the presence of technical devices, ensuring unit night actions has a number of characteristics and difficulties of their own. Darkness makes the mass employment of aviation and terrain navigation by units very difficult. The successful execution of combat operations at night requires detailed organization and coordination, greater preparation by units, high morale, and great physical endurance for personnel. Combat operations by first-echelon units and large units should preferably be carried out in rotation, and they must be relieved alternately to provide them with

possibilities for rest and the preparation of combat vehicles for night actions. When specifying the directions of unit attacks at night, the execution of complicated maneuver must be avoided and favorable terrain and land routes should be exploited to the maximum extent.

The night actions of army forces should have the character of decisiveness and initiative. The units and large units, exploiting the gaps and boundaries of the enemy's combat formations, should penetrate, as fast as possible to the depth of the enemy disposition, destroy its troop control and fire systems, and seize key terrain by dawn, so as to provide favorable conditions for the rapid development of the attack on the next day. During night combat operations signal flares and radar devices are widely employed.

The transition of units from day action to night attack and vice versa must be effected without pause and without decreasing the speed of attack. To exploit success gained at night, the army's second-echelon division or combined arms reserve can be committed into combat by the next morning.

Reinforcement of Success

Success in developing the attack without the employment of nuclear weapons is meaningless without the expansion of efforts on the decisive directions. The expansion of efforts on the decisive directions is achieved by commitment of a second-echelon division or combined arms reserves and by regrouping the forces. Therefore, situations may arise in the course of conducting offensive operations which require, due to rapid changes in the combat situation, that the main efforts of the army must be shifted to another direction, or that the strike forces on another direction should be reinforced. This can facilitate fast destruction of enemy forces and favors quicker arrival of units in areas whose seizure leads to the achievement of the aim of the operation. Thus, the necessity of committing additional forces from the second-echelon (reserve) or regrouping of forces on other directions arises.

The decision to shift the main effort of the army to new directions is made by instruction or permission of the *front*

commander. In the decision of the army commander, the following must be specified:

—enemy groupings on new directions, the destruction of which can ensure the success of the operation;
—tasks and targets of artillery and air strikes;
—composition of force groupings to operate on new directions;
—missions of adjacent large units and methods of coordination with them;
—method and time of regrouping, if regrouping is to be carried out;
—mission of air defense troops;
—organization of support for combat activities and troop control.

Concentration of the forces' efforts on new directions should be effected in a short time, secretly and surprisingly for the enemy, and without decreasing the speed of the attack on other directions.

Transition of Army Forces to Combat Action with the Employment of Nuclear Weapons

Transition from combat operations with conventional weapons to actions with the employment of nuclear weapons is more likely to be effected in situations in which the enemy's first-echelon main grouping is destroyed, attacking forces penetrate into important and vital areas inside enemy territory or seize them, and the enemy cannot stop the subsequent attacks of friendly forces by conventional weapons. Transition to the employment of nuclear weapons, by nature, marks a new phase in the development of the operation, during which both opposing sides attempt to change the situation to their favor profoundly and drastically and inflict decisive losses on the enemy. The important task of troop control elements at this stage is the organization and execution of initial mass nuclear strikes on the enemy, reinforcement of actions and measures in behalf of maintaining the combat effectiveness of units, and ensuring their rapid action following the initial nuclear strikes.

The organization and delivery of initial nuclear strikes in the course of conducting combat operations, without the employment of nuclear weapons at the outset, will be profoundly different from the organization and execution of initial nuclear strikes delivered at the beginning of the war. The reason behind this difference is the fact that in the former case rapid changes in the situation and the status of targets to be destroyed and for the nuclear delivery means themselves would be expected. At this stage both sides' forces would have deployed, having close contact with each other. It means that in addition to the deployment of operational-tactical nuclear delivery means, tactical nuclear delivery means would have deployed as well. This would require that the latter must also participate in the delivery of initial nuclear strikes.

At the phase of the enemy's direct preparation for the employment of nuclear weapons the important task to be conducted by reconnaissance is locating enemy nuclear delivery means and determining the probable time of their being prepared for the delivery of nuclear strikes. Gaining exact information about these matters at the earliest offers the possibility that timely strikes of conventional weapons may be delivered on the enemy's nuclear delivery means, which could, by itself, much weaken the power of the enemy's preparation for the employment of nuclear strikes. Moreover, timely determination of enemy preparations for the employment of nuclear weapons favors opportunities to preempt the enemy in delivering nuclear strikes. To overtake the enemy in delivering nuclear strikes, friendly forces should initiate nuclear strikes at the first indications of enemy preparations for nuclear weapon strikes.

The army commander and staff must constantly follow the changes in the targets of initial nuclear strikes and in the preparation of army rocket brigade units and first-echelon division rocket battalions for the employment of nuclear weapons. In accordance with the decision and instructions of the *front* commander, the army commander will have to issue rapidly appropriate instructions to rocket units concerning an increase in their combat readiness.

Depending on the disposition of units in close contact with the enemy, special importance is given to modifying the yields and forms of nuclear weapons bursts and to the specification of security lines and distances of first-echelon units from the targets to be destroyed by nuclear weapons. For the destruction of targets near friendly units, it is better to employ smaller yield nuclear weapons (3 to 10 kilotons). Complications and rapid changes in the situation, particularly in the situation of targets to be destroyed and the status of nuclear delivery means, will not always require that the army commander specify targets for all nuclear delivery means when participating in initial nuclear strikes. Therefore, the necessity may arise to authorize division commanders to select targets for their rocket units, in accordance with their assigned missions and the instructions of the army commander.

Timely issuing of instructions to first-echelon divisions, airborne assault units, air defense units, and reserves, as well as to rear service installations, concerning their actions in the preparation and execution phase of initial nuclear strikes and in regard to the directions for units exploiting the results of nuclear weapons employment, and the modification of coordination for attacking units will be vitally important at this stage of combat operations. Special measures are taken to protect units, command posts, and rear service installations from the impact of enemy mass-destruction weapons. All these tasks must be carried out in the shortest possible time and require coordination and great exactness in actions on the part of the army commander, as well as on the part of commanders and staffs in all echelons.

With the initiation of nuclear weapons employment, combat operations by army forces will develop in accordance with the conditions and requirements of a nuclear environment, as discussed earlier.

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CHAPTER SEVEN

Army Defensive Operations

I. General Principles of the Army's Defensive Operation

Role of the Defensive Operation and Conditions of the Army's Taking up the Defense

Defense in contemporary war is a forced and temporary form of combat action. Defensive operations, in general, are used in support and in the interest of the aims of offensive action. The important role of an army's defensive operation is to create conditions for friendly forces to initiate the offensive (or to resume an attack stopped by the enemy). Defensive operations are conducted to inflict losses on the enemy's strongest groupings of forces and to support the conduct of a decisive offensive operation by large units and formations on important directions of the TSMA.

The experience of the Great Patriotic War indicates that conditions for assuming the defense by the army and the conditions for its conduct may vary. They are determined by the following:

—specific conditions of the situation, primarily the composition, combat capabilities, and characteristics of the actions of friendly and enemy troops;
—correlation of forces and means in the army's area and in the area of operation of adjacent operational formations;
—type of weapons used [nuclear or conventional];
—importance of the defended direction and the concept of the defensive operation;
—physical and geographic character and conditions of the area and availability of time for preparation of the defense.

During the Great Patriotic War the army often assumed the defense in the context of a *front* defensive operation. It also took up the defensive during, or in crucial phases of, *front* offensive operations such as:

—when the enemy launched counterstrikes (counterattacks);
—when the enemy initiated a counteroffensive to delay the advance of friendly forces;
—when restoring the initial situation in a portion of the *front's* area of operation.

Armies have also conducted defensive operations to maintain a bridgehead or to repel enemy attacks trying to break out of encirclement. According to the theory of the Soviet art of war, in contemporary war the defense is conducted when attack is not possible because of various reasons or when attack is not wise and favorable under actual circumstances. Defense is also used when economy of forces and means is required in the interest of offensive action on other important directions.

An army's defensive operation may be prepared prior to the initiation of the war on likely directions of the enemy's aggressive attack on the territory of the USSR or on other friendly countries. It may also be prepared during the conduct of combat actions. The army defensive operation may be in the context of a *front's* offensive operation in the following specific phases:

—at the beginning;
—during the operation;
—at the end of the *front* offensive operation.

An army's defensive operation may also be a part of a *front* offensive operation. According to field service regulations, defense may be assumed in conditions of direct contact with the enemy or without such contact with enemy forces. Defensive operations may be conducted with the use of conventional or nuclear weapons. On the basis of the instructions of the commander-in-chief, the army may take up the defense in peacetime in advance (during a period of threat), on the borders to repel likely enemy aggression against friendly territory. This creates favorable conditions for the offensive.

The army may take up the defense in advance on maritime directions or on exposed coasts where a landing by the enemy's seaborne assault troops is likely. It may also initiate the defense to cover individual directions on neutral country's borders from the territories of which strikes by enemy force groupings may be launched.

At the beginning of a *front* offensive operation, the army may assume the defense in a situation in which the enemy succeeds in establishing a superiority of forces and means along that army's direction. In this case, according to the concept of the *front's* offensive operation, the army is assigned to repel the attack of superior enemy troops and to support the conduct of the attack of friendly troops on other directions. The need for assuming the defense by the army at the beginning of a *front* offensive operation may also emerge when the enemy imposes maximum losses on friendly forces in the following ways:

—by surprise nuclear and massive aviation strikes;
—by forestalling and overtaking friendly forces in deployment;
—by initiating the offensive action with superior forces.

During the conduct of the *front's* offensive operation, the army may assume the defense when the following occurs:

—it has not achieved success in a meeting engagement;
—during the operation it fails to destroy the counterstrike (counterattack) of large enemy forces;
—army forces suffer heavy losses and cannot successfully continue the attack.

In these cases, the army is forced to take up the defense. During the conduct of the *front's* offensive operations on maritime directions the army may be assigned to establish coastal defenses. The army often assumes the defense to repel the attack of superior enemy forces.

Assumption of the defense by the army during the conduct of an offensive operation is often conducted under difficult ground and air conditions and under enemy strikes. When the enemy takes up the defense it will normally have shortfalls in forces and means. Meanwhile, the army's large units will be operating at different depths on separate directions, the main forces will be engaged in combat, troops will be suffering from great losses, and a number of large units and units may have great shortfalls in rear service support.

Army elements operating on different directions may not take up the defense simultaneously. At first large units and units which are facing unfavorable situations take up the defense along the line reached by the troops. Meanwhile, on individual directions, individual groupings of forces will continue the attack seizing certain lines whose occupation improves the army's operational situation and supports the firmness of the defense. Part of the army's troops may be engaged in destroying enemy airborne assault troops dropped in the rear of friendly forces.

The army assumes and conducts the defense normally in coordination with the following:

—adjacent armies;
—rocket troops;
—aviation;
—air defense troops;
—reserves;
—other forces and means of the *front*;
—maritime directions (with naval forces).

On individual operational directions and on specific terrain or other conditions the army may prepare and conduct the defensive operation independently or with the support of *front's* force

elements. Even under normal conditions the army for some time will have to repel enemy attacks (counterattacks) with only its own forces and means and without participation by *front* or adjacent armies' means. This situation develops under the following conditions:

—when the *front* concentrates its main efforts, out of necessity, on enemy groupings of forces not in the army area but on other directions;
—when *front* reserves are not available at the actual time;
—when the *front* faces greater danger of enemy attack (counterattack) on other directions.

In the *front's* defensive operation, the army may operate in the *front's* first- or second-echelon. When defending in the *front's* first-echelon, the army may operate on the main or other directions. The *front's* second-echelon army is normally assigned to launch the *front's* counterstrike (counterattack) and to initiate the attack. In the *front's* offensive operation the army conducts the defensive operation in a situation in which the *front's* main forces conduct the attack.

The army operating on the main direction in the *front's* first-echelon, normally defends on one operational direction along which the attack of large enemy forces is expected or conducted. The most important operational direction may be defended by several armies. Along directions with particular physical and geographic conditions, the army defends on several operational directions.

II. The Aim of the Defensive Operation and Missions of the Army in Defense

The aim of the defensive operation and missions of the army in the operation are determined by the general concept of the *front* operation and the conditions of the situation [which has] developed on the direction of the army's action.

The principal aims of the army's defensive operation in contemporary times are the following:

—repel the attack (counterattack) of superior enemy forces;

—inflict maximum losses;
—protect and cover our own forces;
—support the development of the attack on important directions;
—maintain vital operational lines and areas;
—create favorable conditions for the initiation of the attack by our own forces;
—cover the flanks of the main groupings of *front* forces.

In offensive operations conducted with the use of nuclear weapons, one of the aims of the army assuming the defense will be to restore the combat effectivness of forces which have suffered such heavy losses that they are not capable of developing the attack.

The principal aim of the defensive operation is achieved by accomplishment of the following missions by army forces:

—destroying enemy nuclear attack means and inflicting losses on the main groupings while they are approaching, and during their deployment for the attack;
—repelling the attack of the large groupings of enemy forces, repelling enemy air strikes, and maintaining vital terrain lines and areas;
—destroying enemy groupings of forces penetrating to the depth of the defense and creating conditions for the initiation of the attack.

The principal missions of the army's defense on maritime directions are as follows:

—repelling enemy seaborne assault troops;
—repelling the strikes of enemy naval and aviation;
—destroying landed enemy seaborne and airborne assault troops;
—maintaining occupied areas on the seacoast, as well as the flanks and rear of the ground forces.

The army will accomplish its missions in different forms depending on the following conditions of assuming the defense:

—composition [of friendly forces];

—capability and operational situation of friendly forces;
—composition and characteristics of the actions of the attacking enemy;
—types of weapons to be used.

Inflicting losses on enemy main force groupings as early as during their approach march and deployment for the attack is ensured by the following:

—nuclear and chemical weapons;
—air strikes;
—artillery fire using the maximum range of available means.

In order to inflict losses on enemy main groupings preparing for the attack, the army will conduct counterpreparatory fire (and sometimes, following counterpreparatory fire, strikes by large units and units in front of the forward edge of the defense). As the enemy initiates the attack, all weapons including tanks, antitank weapons, and infantry weapons supported by engineer obstacles are used to inflict maximum losses. Destruction of enemy force groupings which have penetrated into the defense is conducted by committed forces and means. Simultaneously, they firmly hold critical areas and conduct counterattacks and counterstrikes. A combined arms army (four-five divisions) may be assigned to defend an area 100-150 km wide on the main direction depending on the following:

—actual situation;
—enemy groupings;
—composition and status of friendly forces;
—characteristics of terrain.

In TSMAs and on directions with special types of terrain (mountains, desert, northern regions, seacoasts, etc.) the army is capable of defending on a wider front.

The depth of the army's defense area may reach up to 100-150 km and more. This provides for a dispersed deployment of first-echelon large units, rocket troops and reserves, and the establishment of defensive lines and positions in the operational depth.

In order to delay enemy heavy strikes by using all means of combat, the modern defense must meet certain important requirements. The defense must be firm, active, and must have antinuclear and antitank resistance. It must resist nuclear strikes and other mass-destruction weapons, air strikes, and artillery fires. It must repel massive attacks by tanks, prevent the landing and action of enemy airborne assault troops, and destroy enemy troops which have penetrated into the depth of the defense.

In defense, the sustainability, resistance, and firmness of the defending troops is extremely important. The troops absolutely cannot leave the lines (positions) they hold and cannot withdraw without the higher commander's orders. They must be ready to continue actions in situations where they are out of tactical communication range with the large units and when they are encircled by the enemy.

One of the decisive conditions which ensures activeness and firmness in the defense and hence, success in the defensive operation is the combat training and high morale of the defending troops. Therefore, while taking up the defense, maintaining constant morale superiority over the enemy is increasingly important.

III. Establishment of the Defense

Establishment of the army's defense includes the following:

—formation for operations of the troops and their system of defensive belts;
—preparing strikes by nuclear and chemical weapons;
—fire system of conventional means;
—air defense systems;
—engineer installations of the army.

The army must always establish its defense in accordance with the concept of the defensive operation and must provide the following:

—effective use of all forces and means;
—active air defense and protection of the troops from mass destruction weapons;

—resistance and sustainability of the defense in terms of anti-tank resistance and holding critical lines;
—full exploitation of maneuver capabilities by army troops to expand rapidly the massing of forces and means for meeting the attacking enemy and inflicting decisive losses on him;
—smooth and continuous interaction and troop control of defending forces.

The establishment of the defense, the method of its preparation, and the composition of the forces and means to conduct the defense would each have specific characteristics under each specific condition depending on the conditions of the initiation of the defense.

Under all conditions, the groupings of forces and means and the establishment of the defense must not be stereotyped. They must have a varied nature. They should not present a standard pattern in order that they may deceive the enemy and force him to deliver his nuclear and conventional strikes on areas not occupied by friendly forces.

On each direction a different form of combat formation for forces and means must be used in accordance with the requirements of terrain conditions and the situation. But at the same time the groupings of defending forces must be capable of repelling the attack of superior enemy forces with or without the use of nuclear weapons. When the defense is established with the use of only conventional weapons, it is still necessary to meet all requirements for a defense under the conditions of the employment of nuclear weapons.

The formation for operations of army forces in defense depends on the following:

—aim of the operation and army missions;
—composition of enemy groupings of forces;
—character of his actions;
—terrain conditions;
—other aspects of the situation.

The formation for operations may be formed in one or two echelons. It includes the following:

—first-echelon large units;
—second-echelon or combined arms reserves;
—groupings of rocket and artillery troops;
—air defense troops;
—engineer and chemical troops attached to the army;
—various reserves (antitank, engineer, and chemical) and mobile obstacle detachments (POZ).

In order to ensure firmness and activeness of the defense in contemporary times, the army's formation for operations and the combat formations of large units and units operating on the main direction of the attack by enemy strike groupings must be deep. [See figures 9 and 10.] The depth of the defensive formation must provide for the following:

—reinforcement of resistance against the enemy;
—unhampered maneuver of troops, particularly maneuver of second-echelon troops and reserves;
—dispersion of the troops to ensure their protection against mass-destruction weapons.

Consistent with the formation for operations, the defensive area of the army is supported by engineer installations which include the following:

—first defense belt occupied by first-echelon large units;
—the second and third defense belts prepared for second-echelon (combined arms reserve) large units;
—position areas for rocket troops and air defense rockets;
—fire positions of artillery and air defense artillery;
—staging areas for reserves;
—blocking positions and lines of deployment for second-echelon troops and reserves;
—areas of deployment for units of army special troops;
—command posts;
—army rear service installations and units;
—routes for the maneuver of troops and for supply and evacuation;
—system of engineer obstacles.

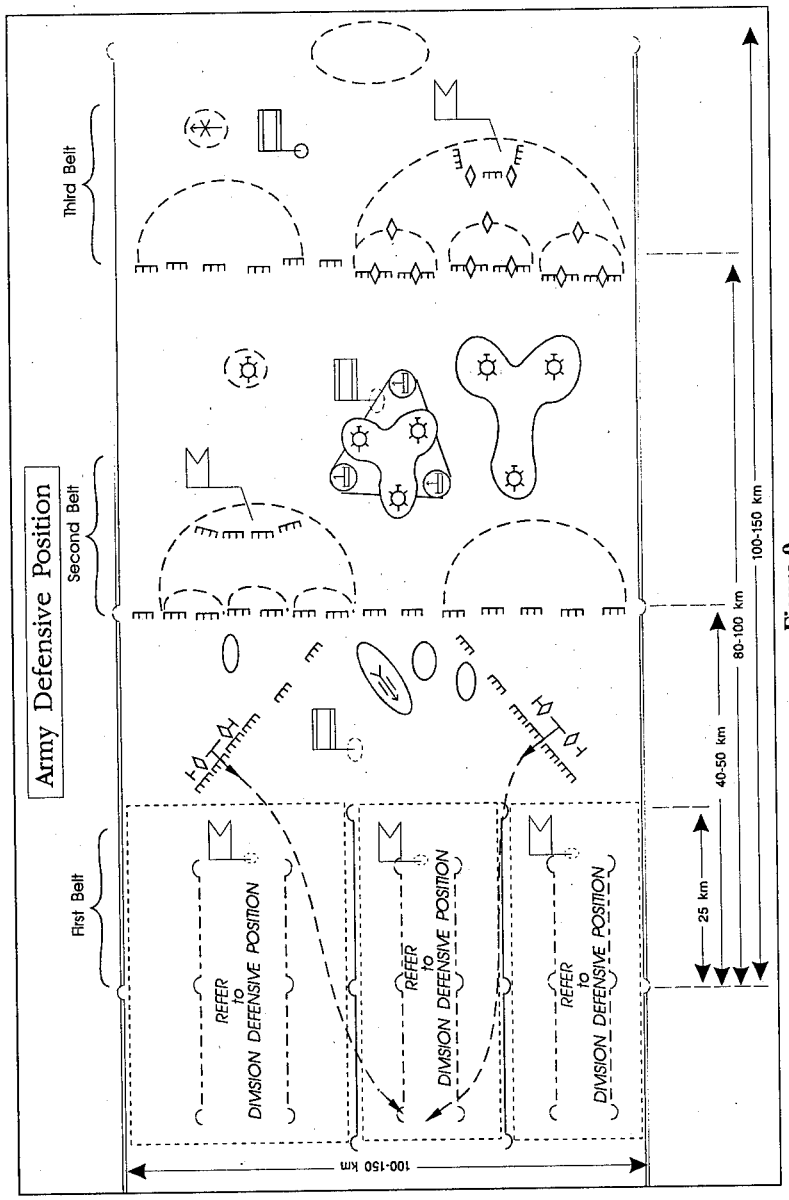
Army Defensive Position
First Belt
Second Belt
Third Belt
REFER to DIVISION DEFENSIVE POSITION
REFER to DIVISION DEFENSIVE POSITION
REFER to DIVISION DEFENSIVE POSITION
100-150 km
25 km
40-50 km
80-100 km
100-150 km

Figure 9

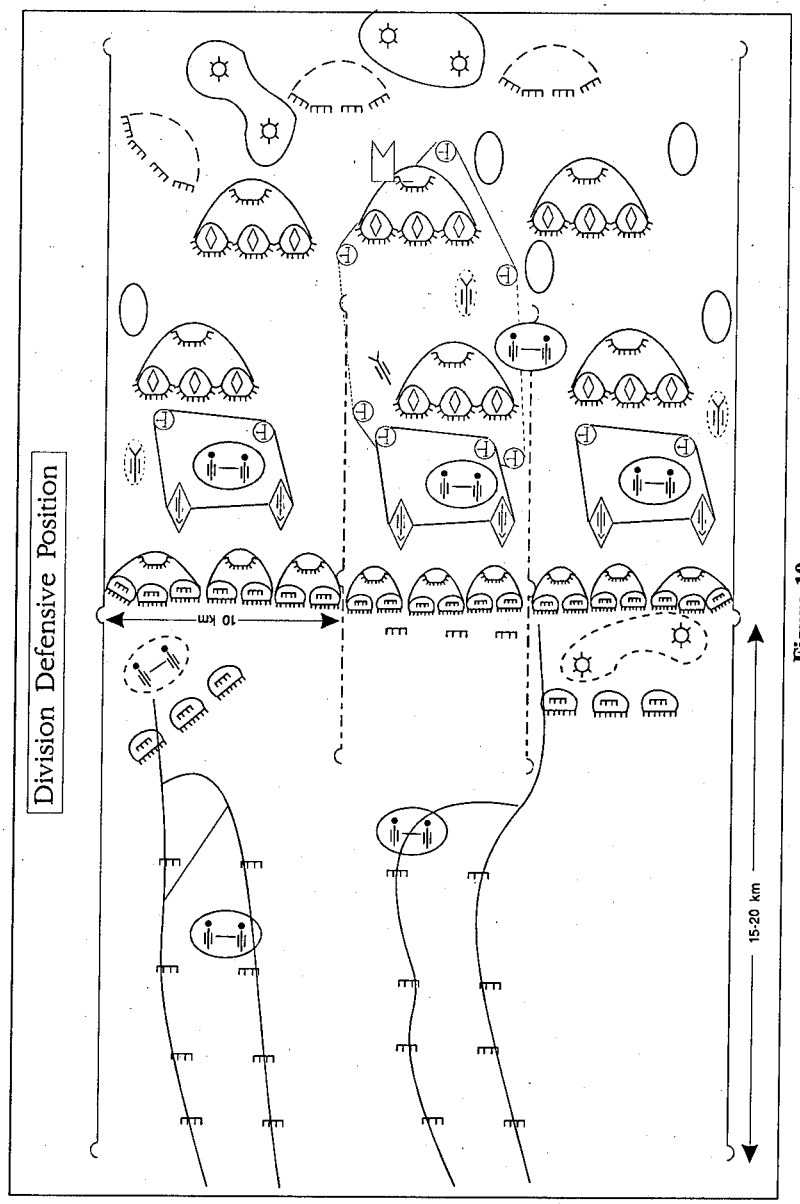

Figure 10

First-Echelon Forces

The first-echelon forces of the army are assigned to accomplish the following:

—repel enemy attacks;
—inflict losses on attacking enemy groupings;
—prevent the enemy's penetration into the depth of the defenses;
—maintain critical terrain lines.

Maintaining critical terrain lines in itself would provide conditions for the destruction of enemy forces, which may penetrate into the depth of the defense. Counterstrikes by second-echelon troops or combined arms reserves would be employed in this case.

The number of divisions assigned to the second-echelon depends on the following:

—width of the army sector;
—army's missions;
—significance of the defended direction;
—conditions of the initiation of defense;
—status of the opposing forces.

First-echelon large units, establish the first defensive belt which often would be the main defensive belt. Thus, the division will hold three or more defensive positions, regiments will defend in two, and battalions in one defensive position. The basis of each one of these defensive positions is constituted by motorized rifle and tank company strongpoints integrated into the battalion defensive area. They are interconnected with one another in terms of front and depth, by a unified system of fire and obstacle systems. The depth of each position may reach two kilometers. The distance between positions may be different, and may reach five kilometers. Given this depth, the depth of regimental defenses may reach 10 kilometers, while the depth of division defensive belts may reach 25 kilometers.

The width of the defensive belt for the motorized rifle (tank) divisions on the direction of the enemy's main attack may reach

30 kilometers; for a regiment 10 kilometers, and for a battalion 5 kilometers.

On the most important direction, at a distance of three-five km in front of the forward line, forward positions may be established which are held by subunits detached from first-echelon regiments. The forward position is assigned to accomplish the following:

—deceive the enemy about defensive dispositions;
—[repel] surprise attacks;
—force the enemy to deploy his forces prematurely.

In front of the first defensive belt a security zone with a depth of 15-20 km and sometimes more, may be established. This belt is created to accomplish the following:

—delay enemy advances;
—force the enemy to deploy and attack on unfavorable directions;
—detect and disclose the intentions and objectives of enemy groupings.

The security zone is defended by forward detachments composed of motorized and tank subunits (units). They are assigned from first-echelon divisions and sometimes from the elements of one division.

At the beginning of a war, while initiating a defense on the border areas, the security zone is occupied and defended by forces assigned to cover the movement and deployment of the army's main forces.

The selection of the forward edge [of defense] and establishment of the defense by first-echelon large units, greatly depend on the condition of passing over to defense. First-echelon forces take up the defense in the course of the conduct of the attack. The defense is established on lines reached by these troops and sometimes after the seizure of favorable terrain lines further on. In some cases, on individual directions or in the entire area of army defenses, it is better to establish the first defensive belt within the depth of friendly held territory on favorable terrain lines under cover of the forward units.

The forward edge is designated by the army commanders and confirmed on the terrain by division (regimental) commanders. The number of defensive positions in the defensive belt of each large unit and their locations are determined and specified by the division commanders.

Army Second-Echelon Forces

The army's second-echelon is assigned, as a rule, to launch counterstrikes during defensive combat. [See figure 11.] Part of the second-echelon forces or all of them may be employed to firmly hold defensive lines. Their mission will be to destroy enemy airborne assault troops or to destroy groupings which have penetrated into the defense.

Combined Arms Reserve

The combined arms reserve is usually established when the creation of second-echelon forces is not possible. The combined arms reserve is assigned to accomplish the following:

—conduct counterstrikes;
—reinforce troops operating on the main direction;
—relieve units who have lost their combat effectiveness;
—destroy enemy groupings which have penetrated into the defense;
—destroy enemy airborne troops;
—conduct other unexpected missions which may arise during the defensive operation.

The army, employing second-echelon forces or army reserves, establishes in the operational depth one-two defense belts. They will be at a distance of 50-70 km from one another and at the same distance from the forward edge of the first defense belt.

Operational defense belts are selected in accordance with the following:

—characteristics of the terrain;
—character of likely enemy actions;

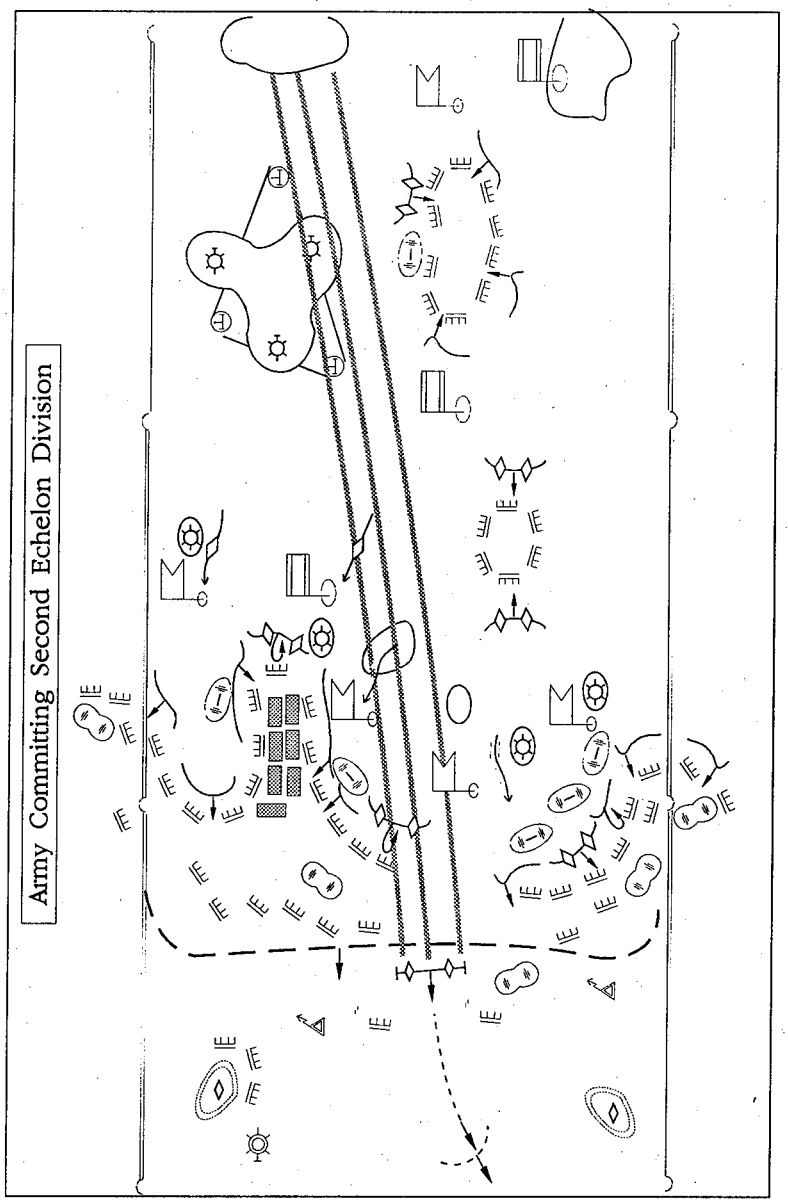

Figure 11

—maneuver of friendly forces;
—general concept of the army's defensive operation.

Rocket Troops

The grouping of rocket troops is established by providing full use of their combat capabilities in the army's area. This is particularly important during the delivery of massive nuclear strikes. The principal tasks of rocket troops in the defensive operation are as follows:

—destruction of enemy nuclear means;
—infliction of losses on enemy main forces by hitting them with nuclear and chemical rounds (when such weapons are used);
—disruption of enemy troop control;
—destruction of enemy air defense means;
—infliction of losses on enemy seaborne assault troops (when the defense is conducted along sea coasts);
—disruption of enemy rear service activities.

The army rocket brigade is assigned the main position areas along with one-two alternate position areas. Position areas are selected at the flanks of the likely directions of attacks of enemy main groupings. They will be at a distance of 60-80 km or more from the forward edge.

Artillery Groupings

Artillery groupings include the regiment, division, and army artillery groups. The army artillery may be established on the direction of enemy main attacks by using army artillery and artillery attached to the army. The army artillery group is assigned to accomplish the following:

—destroy enemy tactical nuclear delivery means;
—conduct struggle against enemy artillery;
—reinforce the artillery of first-echelon divisions;
—destroy the enemy during counterstrikes.

The principal tasks of artillery during the defensive operation are as follows:

—destroy enemy nuclear [delivery] means and artillery;
—prevent the approach and deployment of enemy forces trying to launch the attack;
—participate in counterpreparatory fire;
—inflict losses on the enemy in his staging areas for the attack;
—destroy enemy motorized rifle troops and tanks during enemy attack;
—destroy enemy command posts and rear service targets;
—participate in the destruction of enemy airborne and seaborne assault troops.

Aviation

In the army's defensive operation aviation is to accomplish the following:

—participate in counterpreparatory fire;
—provide air support for combat actions by the troops while repulsing enemy attacks and during counterstrikes by friendly troops;
—participate in coordination with army and *front* air defense troops;
—cover rear service troops and targets against enemy air attacks;
—conduct air reconnaissance.

Army Air Defense Forces

Groupings of army air defense forces are established by employing air defense rocket units, air defense artillery troops, and radio-technical troops. This grouping is established with fighter aviation and air defense troops of adjacent forces in order to accomplish the following:

—prevent or greatly weaken enemy air strikes against army main groupings and rear service targets;

—destroy enemy airborne assault troops in the air;
—prevent flight of enemy aircraft against *front* rear services.

Army Reserves

Army reserves are employed in areas which may benefit from their ability to maneuver rapidly to threatened directions.

Nuclear Weapons

In a defensive operation with the use of nuclear weapons, they are considered the decisive means of inflicting losses on the attacking enemy. It must be noted that the army will normally be allocated a limited number of nuclear rounds while conducting the defense. Therefore, nuclear weapons must be used at the decisive phase of the operation and on the most threatened directions.

Nuclear weapons must be employed with much care and calculation. Nuclear weapons should inflict timely, effective losses on important targets of the attacking enemy. This must occur at a decisive phase in the operation in order to ensure favorable conditions for initiating the attack by the defending forces.

The main targets of nuclear weapons in defense are as follows:

—nuclear weapons;
—groupings of tank forces;
—aircraft on airfields;
—command posts;
—air defense means;
—vital rear service targets.

Nuclear strikes are supplemented by the use of chemical weapons in order to accomplish the following:

—inflict losses on enemy personnel;
—create large contaminated areas on enemy advance directions;
—[suppress] air strikes using conventional weapons;

—[suppress the] fire of artillery and mortars, tanks, antitank, and infantry weapons.

IV. Preparation of the Army's Defensive Operation

Content and Methods of Preparing for the Defensive Operation

The preparation of the army's defensive operations include numerous measures conducted by the following:

—commanders;
—staffs;
—chiefs of arms and services;
—party and political organs of the troops;
—rear services.

These measures are taken in order to establish a firm (viable) and active defense.

The principal measures for preparation of the defensive operations are as follows:

—making decisions for the operation and establishing defensive groupings of forces;
—assigning missions to the troops and organizing coordination among them;
—planning the operation;
—preparing nuclear strikes and establishing fire systems with conventional means;
—organizing air defenses;
—establishing engineer work on the terrain;
—organizing and conducting political-morale work;
—organizing the support of combat actions by troops and troop control during the operation;
—maintaining constant high combat-readiness of troops for the accomplishment of assigned missions.

Method of Conduct

The method of conducting these measures and the form of the actions of the commanders and staffs at all levels, depend on the following:

—assigned mission for the defense;
—condition of the situation under which the defensive operation is prepared;
—[composition of] troops passing over to defense.

In this process the following factors become extremely significant:

—army's time period of assuming the defense (advance assumption of defense or passing over to defense during enemy-initiated attacks);
—type of weapons used (with or without the use of nuclear weapons);
—characteristics of enemy actions and his likely intentions;
—status and operational situation of the army's forces;
—availability of nuclear weapons, chemical weapons, and materiel reserves;
—terrain conditions and engineer installations in the TSMA and defensive belts.

Preparation for the Operation

In peacetime, preparation for the operation enables the following to occur:

—reconnaissance and evaluation of the terrain and the army's defensive area;
—detailed operational planning;
—establishment of all measures for advance organization of the defensive operation.

Peacetime preparation for the operation is conducted in anticipation of the possibility and/or likelihood of its initiation and conduct with or without the use of nuclear weapons. This principle also constitutes the basis for the preparation of the defense, which is assumed during the course of combat actions conducted with the use of conventional weapons. An important measure for preparing the operation under such conditions, is organizing the participation of army weapons and means in the initial nuclear strike of the *front*.

During the army's assumption of the defense, in the course of the attack, the army commanders and staffs are required to accomplish the following:

—resolve different tasks in accordance with their contents and characteristics;
—take measures on repulsing enemy strikes;
—destroy enemy airborne assault troops;
—organize infliction of losses on enemy reserves;
—prepare defenses on the most favorable lines.

Simultaneously with the organization of the defense, troop control is conducted during the ongoing attack. Under such conditions all measures on preparing the defensive operation will be conducted in a short time.

In the case of enemy nuclear and chemical attacks at the beginning of the war, or during the course of combat actions, preparation of defenses will be conducted simultaneously with actions eliminating the consequences of the use of these weapons. This is done in order to restore troop combat effectiveness.

Making the Decision for the Operation

The decision of the army commander constitutes the basis for the conduct of all measures on preparing the defensive operation and troop control during the operation. Making a logically measured decision for the defense is possible only through proper clarification of the assigned mission and all-around, detailed assessment of the situation.

Clarification of the Defensive Mission

During the clarification of the defensive mission, the army commander is obliged to understand thoroughly the following:

—concept of the operation of the *front* commander;
—aim of assuming the defense;
—role of the army in the *front* operation;
—specified missions of the army in the defense;

—interrelationships among the missions of the army's large units;
—impacts of the use of nuclear weapons;
—means of the *front* and adjacent operational formations on the army's actions and the nature of interaction with them;
—forms and nature of maneuvers which may enable the army to accomplish its missions.

In the process of clarifying the missions, the army commander looks at and reaches decisions on the following questions:

—what actions are required to be conducted by the army currently or in the immediate future;
—what measures must be taken by the army staff and chiefs of arms and services for preparing the operation;
—what instructions must be given to the troops.

In the process of estimating the situation the army commander determines the following points:

—likely enemy concept of operation;

—enemy capability to use nuclear weapons, chemical weapons, and air strikes;
—composition of the groupings of enemy main forces and their likely directions of attack;
—enemy strong and weak points;
—principal reconnaissance missions.

—army capability to foil enemy attacks;

—destruction of enemy nuclear delivery means;
—inflicting losses on strong enemy groupings of forces by nuclear and chemical weapons, aviation, artillery fire, and other means;
—army capability to repulse enemy attacks;
—destruction of enemy groupings of forces which may have penetrated into the depth of the defense;
—correlation of forces and means in terms of different directions;

—directions where the main effort of enemy troops must be concentrated;

—terrain lines, the holding of which would ensure firmness of defense;
—required density of forces and means on important directions and areas;

—the best structure of groupings of army forces and means for the defense and the method of its establishment;
—the forward edge, defensive belts of first-echelon large units, defensive lines and lines of deployment of army second-echelon large units and reserves;

—security zones and troops to be allocated to those zones;
—position areas for rocket and air defense troops;
—directions of the maneuver of forces and means in the course of the operation, particularly in the direction of counterattacks and counterstrikes;
—areas of deployment of command posts and army rear service elements.

When the army assumes the defense under any specific condition, the methods and sequences of making decisions may have a different character due to the conditions of the situation and availability of time. When the army assumes the defense during combat action, particularly under enemy attacks and strikes, the army commander, depending on the situation, may visualize the most urgent issues on each individual direction and rapidly assign missions to the troops to resolve these tasks.

If there is rapid change in the situation, the army commander will have a very limited time to make his decision. Therefore, the decision must always be made with foresight. It is based on the following:

—accurate calculations;
—correct information about enemy targets and groupings of forces;
—objective and realistic assessments of our forces along with the enemy's;
—terrain conditions;

—other factors.

On the basis of the clarification of the mission and the estimate of the situation, the army commander makes his decision on the map, which includes the following:

—concept of the defensive operation;
—missions of the troops;
—main questions of coordination, troop control, and support measures for combat actions.

The concept of the operation specifies the following points:

—what grouping of enemy forces, where, when, by what means, and in what form losses must be inflicted and his attack foiled;
—where the main effort of army forces must be concentrated;
—disposition of the defense.

The main effort of the army may be concentrated on one or two directions depending on the following:

—condition under which the defense is assumed;
—commander-in-chiefs' concept of the operation and the army's mission;
—likely enemy actions;
—terrain conditions;
—army's composition.

The main defensive belt, the first defensive belt, and sometimes the second defensive belt may be selected. On the basis of the concept of the operation, the army commander specifies the following points in his decision:

—missions, targets, and methods for the use of nuclear and chemical weapons;
—the forward edge, army's defensive belts, and blocking defensive lines;
—mission of first- and second-echelon large units (combined arms reserves), rocket and artillery troops, air defense troops, aviation, engineer and chemical troops, antitank mobile reserves, mobile obstacle detachments, and special troop reserves;

—time of occupying the defense by the troops and the time of the readiness of fire systems;
—character, method, and time of preparation for engineer work on the terrain;
—main issues of troop control, coordination (interaction), and support measures for the combat actions of troops.

V. Assignment of Missions to Troops and Organization of the Coordination

During assignment of missions to the first-echelon divisions, the following are usually specified:

—attached means;
—defensive belts, the forward edge, and directions and areas of the main effort;
—missions of artillery during counterpreparatory fire;
—missions to destroy enemy airborne assault troops;
—directions of counterattacks;
—number of rockets with nuclear, chemical, and conventional warheads to be used;
—missions of adjacent forces and methods of coordination with them and aviation;
—responsibility for covering the flanks and boundary lines;
—method of conducting terrain engineer work;
—[measures associated with] deploying command posts;
—time of preparation of the defense.

If a security zone is being established in front of the forward edge of the defense, the army commander also specifies the divisions, size of forces and means operating in that area, character of their action, and method of their support.

The following points are specified with second-echelon large units (combined arms reserves):

—lines, belts of defense;
—missions and directions of counterstrikes (counterattacks), deployment lines, and the directions of advance;
—missions for destruction of enemy airborne assault troops;
—method of support action for second-echelon forces (combined arms reserves);

—method of coordination with first-echelon large units and reserves;
—number of allocated nuclear and chemical rounds;
—method of initiating the attack in the wake of the nuclear strike (if a nuclear strike is launched);
—character and time for preparing engineer work on the terrain;
—deployment of command posts.

Rocket and artillery troops are assigned the following:

—position areas for rocket brigades;
—fire position areas for army artillery groups;
—method and time for occupying positions;
—number of nuclear and chemical rounds to be used;
—targets of nuclear weapons;
—areas of artillery counterpreparatory fire and the forces and means employed in this fire;
—missions inflicting losses on the enemy in front of the forward edge;
—destruction of enemy groupings which penetrate into the depth of the defense;
—method of conducting maneuver;
—measures for maintaining the combat readiness of rocket troops;
—providing security for friendly forces during the launching of nuclear strikes;
—time for preparing the artillery.

For the air defense troops, the following are specified:

—groupings of forces and rear service targets to be covered on the main effort by air defense troops;
—method for repulsing enemy air strikes;
—composition of on-call forces and means;
—method of maneuver;
—method of coordination with fighter aviation.

Aviation is assigned to accomplish the following:

—missions to destroy enemy nuclear delivery means;

—launching strikes on groupings of enemy main forces during their advance, their deployment for the attack, during the conduct of counterpreparatory fire, during the repulse of enemy tank and motorized rifle attack, and missions supporting counterstrikes;
—targets and methods for nuclear weapons employment.

For mobile antitank reserves and mobile obstacle detachments the following are specified:

—composition;
—missions;
—areas of deployment;
—lines of deployment (lines of mining for the mobile obstacle detachments);
—methods of maneuver and coordination with first- and second-echelon large units.

The following is specified for special troop (engineer, chemical) reserves:

—composition;
—areas of deployment;
—missions that they must be ready to accomplish.

In instructions given to the chief of staff and the chiefs of arms and services, the army commander specifies the following:

—method of planning the operation;
—conveying missions to the troops;
—organizing coordination;
—method of conducting measures for the all-around support of combat actions;
—troops control.

Coordination among troops is usually organized during the assignment of missions to the troops. When time is available, coordination may be confirmed on the terrain. The issues related to coordination are reflected in the following:

—plans for the operation;
—planning documents for the combat employment of troop arms and various types of combat support measures.

Organization of coordination in the defense is the integrated action of the following:

—large units;
—units of troop arms and services;
—aviation.

Destruction of the enemy and foiling his attacks will be conducted in terms of the following:

—objectives;
—time;
—place;
—forms of accomplishing the assigned mission;
—directing efforts toward establishing a firm, viable defense.

Coordination in army defensive operations is organized in terms of the missions of the troops and likely directions of enemy attacks. Particular attention is paid to the coordination of the following:

—rocket troops strikes;
—aviation strikes;
—artillery strikes;
—first- and second-echelon large unit and reserve strikes;
—coordination of groupings of forces operating on the likely directions of enemy attacks;
—coordination on the directions of army counterstrikes;
—coordination with the *front's* large units and means.

Planning the Operation

Planning for the defensive operation is conducted on the basis of the army commander's decisions and instructions. The operation is planned in terms of the missions of forces and likely directions of enemy attacks. Planning for the operation, which is conducted on the basis of the principal missions, may be the following:

—inflicting losses on enemy groupings of forces on the approaches to the defense, including the infliction of losses on enemy groupings which make preparations for the attack;

—repulsing enemy attacks and holding the defensive belt of first-echelon large units while simultaneously destroying enemy airborne assault troops;
—destroying enemy groupings which are breaking through the defense or have penetrated into the depth of the defense.

While planning the operation, decisions are made on the following:

—thoroughly and elaborately organizing all elements of the commander's decision;
—method and form of conducting each mission;
—efforts of the troops;
—expenditures of materiel means to be distributed among missions;
—directions of actions;
—methods of coordination among troops during the conduct of the assigned mission;
—issues related to all types of support measures for combat actions and troop control.

Planning would be conducted under the following conditions:

—while preparing for the defensive operation in peacetime;
—while in the course of conducting combat actions;
—with elaborate planning for the use of conventional means.

Special attention is concentrated on planning measures directed toward maintaining high combat-readiness of rocket troops. These troops are to participate in the initial nuclear strike of the *front* and the initiation of defense by army troops.

The sequence and method of action by the army's field troop control elements while planning the operation and the volume of issues reflected in the plan, depend on the situation and primarily on the availability of time.

The plan for the army's defensive operation is usually prepared in the following manner:

—graphically on a map (often with a scale of 1:200,000);
—with annexes of written instructions;

—with descriptive documents.

Sometimes the plan for the operation may be prepared in a written form with a map annex. The graphic plan, prepared on the map usually reflects the following:

—groupings of enemy forces on likely directions of his attack, likely areas of landing airborne and seaborne assault forces (when the defense is conducted on seacoast directions);
—groupings of army forces and means and their maneuver in accordance with likely enemy actions;
—missions and targets to be destroyed by nuclear and chemical weapons, aviation, and artillery;
—missions of army first and second-echelon (combined arms reserve) large units, lines of deployment for second-echelon troops (reserves), and the direction of movement to the deployment lines;
—missions of air defense troops and aviation;
—missions of antitank reserves and special troops reserves;
—engineer installations for defensive belts, and the establishment of the system of obstacles and demolitions;
—command posts;
—deployment of rear service units, installations, and other information.

In the descriptive documents, the following points are included:

—deductions from the estimate of the situation;
—aim and concept of the operation;
—combat composition of the army;
—distribution of support means;
—time for the delivery and distribution of nuclear and chemical rounds;
—correlation and density of forces and means in the entire defensive area of the army and on each direction;
—calculation of the time needed for the movement of troops and their occupation of the defense;
—availability, supply, and distribution of materiel reserves;

—time of readiness for the fire system, engineer installations, and other issues which can not be shown graphically.

The chiefs of troop arms and services and the chiefs of rear services prepare their related plans for the combat employment for their respective troops and special troops and their related plans for supporting combat actions which are part of the operational planning.

Organization of the Fire System

The fire system constitutes the preparation of fire strikes on approaches to the defense and the establishment of dense and multilayered areas for all types of fire in front of the forward edge, on the flanks, and in the depth of the defense. It is also the quick concentration of fire on each direction or threatened areas. The fire system is established with consideration of the following:

—nuclear and chemical strikes;
—close fire coordination among all types of weapons;
—air strikes in combination with the system of obstacles and natural barriers.

The principal organizers of the fire system are the commanders of large units and units. Nevertheless, the major role in this process is played by the army commander, who is responsible for the following:

—issuing necessary instructions on the methods of coordination with the employment of conventional weapons;
—conducting fire maneuvers on threatened directions to cover the boundaries and flanks;
—organizing counterpreparatory fire (based on instructions of the *front* commander);
—preparatory and support fire for the counterstrike;
—issues of calling in fire means from the army's second-echelon troops, army reserves, and adjacent areas.

The fire system is organized across the entire *front* and depth of the defense, including in front of and through each defensive

belt and defensive line. The fire system is organized particularly closely and carefully on tank threatened directions and in front of the forward edge of the main defensive belt.

The artillery is designed to accomplish the following:

—long-range fire;
—massive fire;
—concentrated fire;
—barrage fire on likely directions of enemy attacks.

The areas designated for artillery are the following:

—approaches to the defense;
—in likely areas of enemy deployment for the attack;
—in front of the forward edge;
—in the depth of the defense.

In order to inflict losses on the enemy along approaches to the defense, long-range fire strikes are prepared. The areas of such fire are usually selected at the following:

—passages;
—crossings;
—defiles;
—gorges;
—road junctions;
—likely routes of enemy movements.

Long-range fire strikes on each area are conducted by short, powerful fire strikes by one or several artillery battalions. In front of the forward edge, the following are prepared on one or several lines located on the advance route of enemy tanks and motorized rifle troops:

—massive fire;
—concentrated fire;
—barrage fire.

The distance of barrage fire may be 400-600 m. The closest line of barrage fire to the forward edge must provide for the conduct of fire by antitank weapons on attacking enemy tanks and APCs [BTRs/BMPs]. The closest line should not be less than 400 m from the forward edge.

In the depth of the defense the concentration fire and barrage fire of artillery are planned in likely areas of enemy penetration and on the directions of counterstrikes and counterattacks. For antitank reserves, the fire lines are designated.

Particular attention is required in organizing the antitank defense. Antitank defense constitutes the basis of the defense by large units and units. Its organization is one of the major responsibilities of all commanders. Antitank defense is organized throughout the entire depth of the defense, but primarily on tank threatened areas.

Contemporary large units are capable of establishing a high density of antitank weapons in defense. They repel the attacks of enemy tanks by their organic antitank weapons. The total antitank capability of the division (motorized rifle or tank) facilitates successful repulsion of tank attacks by two enemy divisions. In this context, on important directions the antitank defense may be further reinforced by the following:

—army antitank reserves;
—mobile obstacle detachments (*POZ*);
—forces and means from less threatened directions.

The destruction of enemy tanks in staging areas and during their movement deployment is achieved by the following:

—nuclear and air strikes;
—artillery concentration fire;
—barrage fire from covered positions.

In front of the forward edge and in the depth of the defense this is achieved by the following:

—antitank guided rockets;
—artillery and tanks using direct fire;
—fire by antitank grenade launchers;
—other antitank weapons combined with antitank obstacles.

Antitank weapons deployed in defensive positions of battalions (company strongpoints) on tank threatened directions, may establish a zone of dense antitank fire in a depth of 2-2.5 km in front of the forward edge.

VI. Conduct of Army Defensive Operations with Conventional Weapons

Forms of Inflicting Losses on the Attacking Enemy

In conducting the defense without the use of nuclear weapons, the principal means of enemy destruction are the following:

—massive fire of all types of weapons on the main directions of enemy attack;
—massive fire on vital areas;
—firm holding of positions and lines occupied by troops;
—repulsion of enemy air attacks;
—wide maneuver of forces and means to prevent enemy breakthroughs to the depth of the defense;
—destruction of enemy groupings which have penetrated into the defense;
—counterattacks and counterstrikes.

In this context, the defending forces, as a rule, inflict successive losses by fire on groupings of superior enemy forces under the following circumstances:

—on approaches to the defense
—during the deployment of enemy troops for the attack;
—while repelling enemy attacks;
—during battles conducted within the positions, defensive belts, and defensive lines.

In terms of the conditions under which the defense is assumed the defensive operation may begin, and be conducted in, different forms. At the beginning of the war, the defensive operation may begin with the following:

—repulsion of enemy air attacks;
—conducting massive air strikes;
—actions of covering troops to repel the attacks of groupings of enemy ground forces.

When the defense is assumed in the absence of contact with the main groupings of enemy forces, i.e., during advance

preparations of the defense (in conditions when initiation of the attack by the enemy is likely) the defensive operation may begin with the following:

—launching of strikes by aviation;
—long-range artillery strikes on enemy groupings along the approaches to the defense, i.e., in staging areas, and during enemy advances.

Under favorable conditions, counterpreparatory fires are conducted against enemy groupings of forces which are deploying or making preparations for the attack. For this purpose, rocket and artillery troops, aviation, and other means of fire are employed. Following counterpreparatory fire, strikes (attacks) of motorized rifle and tank troops in front of the forward edge may be conducted.

When assuming the defense while in direct contact with the main strike groupings of the enemy, particularly during the conduct of the attack (counterstrike) initiated by the enemy, the combat actions of army troops in defensive operations may begin directly with repelling the enemy's attack and air strikes. In such conditions during the action to repulse an attack initiated by the enemy, other activities may be simultaneously conducted. These activities could be the following:

—consolidation of seized lines or the most favorable lines in the depth;
—movement and deployment of forces and means;
—regrouping to establish the appropriate defensive groupings of forces.

This is accomplished in accordance with the decisions made for the following:

—[organization of the] defense;
—organization of fire systems;
—engineer preparations for positions, defensive belts, and lines.

When actions to foil enemy preparations for the attack (on approaches to the defense) or to repulse enemy initiated attacks

in front of the forward edge do not succeed, the defenders continue to inflict losses on the enemy during battles conducted to hold positions in the defensive belts of first-echelon units. This may be achieved through the following:

—firm holding of occupied belts;
—destruction of the attacking enemy by all types of fire and air strikes;
—conduct of wide maneuver by forces and means on vital directions and areas.

In order to destroy enemy forces which are breaking through or have penetrated into the depth of the defense the following may be conducted:

—counterattacks at the regiment and division levels;
—counterstrikes at army levels.

In contemporary times, the attack of enemy ground force groupings is combined with actions of airborne assault troops. These troops may conduct various missions. However, their prime task is to support the attack on the main direction. Therefore, in the course of the conduct of the defensive operation, army troops will have to fight enemy airborne assaults and airmobile forces. On naval directions it becomes necessary to conduct combat actions to repel enemy seaborne assault forces.

Thus, inflicting losses on the enemy and destroying his groupings of forces in the defensive operation without the use of nuclear weapons may be conducted by the following means:

—launching aviation and artillery strikes on enemy groupings on the approaches to the defense (staging areas and during enemy advances);
—conducting counterpreparatory fire on enemy forces which are deploying for the attack, making preparations for the attack, and sometimes launching strikes (attacks) by motorized rifle and tank troops in front of forward edge;
—inflicting losses on the enemy by artillery fire while repelling his attacks and by air strikes combined with holding of occupied defensive belts, and simultaneously destroying enemy airborne, seaborne, and airmobile troops;

—conducting counterattacks and army counterstrikes on enemy groupings of forces which are breaking through or which have penetrated into the depth of the defense.

Inflicting Losses on the Enemy on Approaches to the Defense

When, prior to the attack, the enemy conducts advance movements and then deploys and attacks, the actions of army troops are primarily directed toward weakening the enemy's approaching groupings and delaying the initiation of his attack. For this purpose, successive strikes on enemy forces are launched as they move from far approaches to the vicinity of the defensive lines.

The *front* commander makes the decision for delivering strikes on groupings of enemy forces at a distance of 200-300 km and farther from the forward edge of the defending forces. For this purpose, bomber aviation is employed. As the enemy forces move to a distance of 100-150 km from the forward edge, strikes on his forces may be delivered by fighter-bomber aviation.

It is recommended that strikes on the approaching enemy groupings be delivered in areas which will result in the maximum losses on the enemy and delay his advance for a considerable amount of time. Such times would be while enemy forces are passing through the following:

—road junctions;
—bridges;
—crossings;
—passes;
—mountain passages (gorges);
—other bottlenecks.

Aviation accomplishes the following:

—launches strikes on the march columns of enemy forces;
—destroys bridges and crossings on water obstacles;
—creates barriers on mountain roads;
—inflicts losses on nuclear delivery means during their movement and arrival to assembly areas;

—inflicts losses on important command posts and enemy air defense means.

The artillery inflicts losses on the enemy during his advance toward the immediate approaches of the defense. Artillery initially delivers long-range fire strikes and then, as the enemy approaches, launches concentrated fires and barrage fires in front of the forward edge. In this context, it must be noted that the gun and multiple rocket artillery launch their fire strikes at a distance of 15-25 km, and howitzer artillery at a distance of 10-15 km from the forward edge. The closer the enemy troops approach to the defense, the more the capability of the defense increases for inflicting losses on the enemy by fire. To conduct fire against enemy forces which move to deploy for the attack the following are employed:

—the bulk of army artillery;
—reinforcing artillery;
—mortars;
—flamethrowers;
—tanks;
—antitank guided rockets;
—antitank guns;
—grenade launchers.

When in front of the main defensive belt, a security zone is established. Troops assigned to this zone, as well as the artillery of the main defense belt, from their temporary positions, fight the enemy as he passes through the security zone. The principal forms of action by the covering troops are surprise delivery and successive fire strikes. This will be combined with holding critical positions and areas which cover likely main directions of enemy advance toward the main defensive belt.

During combat in the security zone, the direction of the main enemy attack is determined by friendly forces. First-echelon large units improve their defenses and conduct active reconnaissance. Commanders and staffs reconfirm the plans of the conduct of the defense, and when required, conduct regrouping of their forces and means to reinforce critical directions.

In cases when groupings of enemy main forces deploy in the security zone, and they come within range of the bulk of the artillery units of the army, the conditions and potential for conducting counterpreparatory fire on enemy groupings is created.

Inflicting Losses on Enemy Forces Making Attack Preparations and the Conduct of Counterpreparatory Fire

An important form of inflicting losses on an enemy which conducts deployment or makes preparations for the attack is counterpreparatory fire. In the Great Patriotic War there were many instances of the organization and conduct of counterpreparation. Even in the initial phase of war, cases of counterpreparatory fire in the defense against those enemy forces which were making preparations for attack have been seen. As a result, the enemy suffered heavy losses and was forced to delay his attack for some time. During the second and third phase of the war the importance of counterpreparatory fire increased.

When time and means are available to prepare massive artillery fire and air strikes on enemy groupings of forces in front of the forward edge of defense, counterpreparatory fire may be conducted. Generally speaking, counterpreparatory fire is possible when the defense is prepared in advance or when a security zone is established in front of the defense. According to the experiences of field exercises, in order to plan artillery fire and its combat actions during counterpreparatory fire, the division needs three-five hours and the army six-eight hours.

Counterpreparatory fire consists of surprise and powerful strikes by the following:

—aviation;
—artillery fire;
—simultaneous tank fire;
—simultaneous antitank fire;
—by other weapons.

These strikes are conducted against the main groupings of enemy forces in front of the forward edge of defense. When counterpreparatory fire is conducted only by army artillery and elements of *front* aviation, assigned to support the army forces,

counterpreparatory fire may be organized by the army commander in accordance with the instructions of the *front* commander. When such fire is conducted by the main forces of *front* aviation and the bulk of *front* artillery, the *front* commander will be the organizer.

Conduct of counterpreparatory fire requires the concentration of a large amount of artillery in a small area so that an average density of 30-40 guns and mortars per kilometer of frontage can be achieved. When in the army's sector, counterpreparatory fire is conducted in front of the forward edge of one of the divisions defending the main direction. The following forces may be assigned to participate in the conduct of counterpreparatory fire:

—artillery of that division;
—army artillery groups;
—artillery regiments;
—multiple rocket launcher battalions of two adjacent divisions;
—second-echelon artillery (sometimes).

This amounts to 400-500 guns and mortars taking part in the fire. Thus, the dimension of the fire area can reach 10-15 km across the front and in depth. This means that losses may be inflicted by artillery fire strikes on the first-echelon forces of one or two enemy divisions.

Aviation assigned to participate in counterpreparatory fire usually launches its strikes on targets which are out of artillery range. The depth of the area for conducting counterpreparatory fire may increase to 20-30 km or more when, in addition to the artillery, aviation takes part in its conduct. Firepower of artillery and air strikes generally can inflict losses on the main units of one-two enemy divisions.

These calculations confirm that it is difficult to achieve a decisive aim by the conduct of the counterpreparatory fire, i.e. to foil enemy prepared attacks. However, counterpreparatory fire may be realistically aimed at weakening enemy strike groups and gaining time to make preparations for repulsing enemy attacks. Moreover, when successfully conducted, counterpreparatory fire greatly helps defending forces seize the initiative.

Success in counterpreparatory fire is achieved through the following:

—proper selection of its time and conduct;
—effective distribution of targets to be hit, by artillery, aviation, and other weapons.

The main efforts of forces participating in the counterpreparatory fire are concentrated on the most important targets which have been accurately, detected particularly nuclear delivery means, artillery, tank units, and command posts. Counterpreparatory fire must begin by surprise and conducted prior to prepared and planned artillery fire and aviation strikes of the enemy. However, counterpreparatory fire may begin before the arrival of the main forces of the enemy in staging areas or lines of deployment for the attack. The best time for the conduct of counterpreparatory fire is the time when the enemy completes the preparation to initiate the attack.

The method of counterpreparatory fire is specified by the *front* or army commanders. The duration of the fire is determined on the basis of the time required for the accomplishment of assigned missions by all participating forces and means. According to the experiences of field exercises it may last about 25-40 minutes. To ensure the high effectiveness of counterpreparatory fire it is recommended that the fire begin with simultaneous strikes by all weapons and aircraft assigned to participate in the conduct of counterpreparatory fire. Moreover, it is required that radio-electronic jamming be widely used to disrupt the troop control of the enemy forces and particularly the control of enemy artillery and aviation.

Under favorable conditions the results of the counterpreparatory fire are exploited for launching tank and motorized rifle strikes (attacks) in front of the forward edge to disrupt the enemy's attack, to destroy certain units in his groupings, to seize favorable terrain areas, and to delay the enemy's attack on the chosen direction.

When a strike (attack) is intended in front of the forward edge, the composition of forces and means assigned for the strike, the directions of their action, lines to be seized by them, the method of consolidating such lines, and support measures to

ensure the combat actions of the assigned forces and means must be determined. The troops assigned to conduct strikes in front of the forward edge are better assigned from second-echelon forces and reserves. The first-echelon forces must be left in their prepared defensive belts in a state ready to repel the enemy attack.

Along with the organization of counterpreparatory fire and strikes by troops in front of the forward edge of defense, the army commander takes measures to reinforce the defense on important directions and to maintain high readiness of the troops to repel possible enemy attack. For this purpose the mission of the troops and the method of conducting the maneuver of forces and means are reconfirmed, the preparation of the air defense means for the repulsion of the massive strikes of enemy aircraft is intensified, the density of antitank works are improved, additional obstacles and demolitions are created, and directions of movement are prepared for the maneuver of the troops. When required, relocation of second-echelon forces and reserves and relocation of fire positions and command posts may be effected. All measures regarding the reinforcement of the defense must be conducted rapidly and secretly.

Repulsion of the Enemy's Attack and Maintaining the Main Defensive Belt

Since it is not possible to inflict decisive losses on the enemy's grouping by conventional weapons during his advance and development of the attack, inflicting losses on the enemy by conventional weapons generally continues during the entire course of defensive combat. To accomplish the mission of maintaining the occupied defensive positions and lines in combination with the action of motorized rifle and tank troops, rocket and artillery troops, aviation, air defense troops, and other troop arms and services use their specific weapons and combat equipment.

Repulsing the enemy's attack at the main defensive belt is the critical and complicated phase of defensive combat, because at this stage the main forces and means of the attacking enemy and the defending forces initiate combat action. Repulsing the

enemy's attack is achieved by the participation of all fire means of defending forces and *front* aviation. During combat for the main defensive belt, normally the army's second-echelon forces and reserves, as well as the bulk of air defense forces and means, take part.

In modern conditions, the success of defensive operation depends mainly on the organization of a reliable air defense. The experiences of the Great Patriotic War and combat actions in Vietnam and the Near East confirm that the enemy will still try to launch powerful air strikes prior to the initiation of the attack or he will concentrate his air strikes at the beginning of the attack. Therefore, the army commander and the division commanders must prepare the air defense means in a timely manner for the reliable cover of the main defending forces.

Destruction of an Enemy that has Penetrated into the Depth of the Defense—Conduct of Army Counterstrikes

Enemy groupings that have penetrated into the depth of the defense or have broken through the defense are destroyed by the following means:

—air strikes;
—massive artillery fires;
—tank fire;
—[fire by] other weapons;
—conduct of decisive counterstrikes.

In operations during the Great Patriotic War counterstrikes proved to be of significant importance in achieving activeness and great firmness of the defense. At the initial phase of the war several counterstrikes were conducted to accomplish the following:

—divert enemy forces from the main direction;
—force the enemy to regroup his forces;
—temporarily delay an enemy attack;
—stop an enemy attack.

Several counterstrikes successfully led to the destruction of groupings of enemy forces which had penetrated into the depth

of the defense, and to the restoration of the initial defensive line. Under favorable conditions counterstrikes launched during the second half of the war led to drastic changes in the situation, with the enemy calling off his attacks. In contemporary times the capability of the defense to destroy an attacking enemy is increased by the following:

—launching counterstrikes;
—subsequent reinforcement and development of strike power;
—maneuver of troops.

Therefore, in contemporary defense, counterstrikes are the principal form of troop action for achieving the aim of the operation. By launching counterstrikes the following can be accomplished:

—maximum losses can be inflicted on the enemy;
—initiative in the combat action can be seized;
—favorable conditions for the initiation of the offensive [are created].

According to the experiences of war and the fundamentals of operational art, the counterstrike is basically the active and decisive form of destruction of the enemy forces which have penetrated into the defense. It usually ends the defensive operation and determines its outcome. Counterstrikes can be the final phase of the defensive operation. The more the defending forces conduct decisive actions to rapidly change the situation to their favor and seize the initiative on actual directions, the more they effectively achieve the operational aim.

By conducting the counterstrike, the army can achieve its decisive aim, which is the destruction of the enemy attempting to penetrate or break through the army's defense belts and the creation of favorable conditions for the initiation of the enemy's attack. When conditions are less favorable, the army's counterstrike may be launched in order to accomplish missions limited in scope such as:

—destruction of the most threatening groupings of the enemy or enemy forces which have penetrated into the depth of the defense;

—restoration of the defense on one of the favorable lines.

In conditions when the enemy penetrates the army's defensive belts on several directions and a large number of army second-echelon forces and reserves are engaged in combat actions with penetrating enemy forces and his airborne assault troops, the counterstrike can be launched sometimes to stop the attack of the enemy's main groupings of forces, to stabilize the *front*, and to provide favorable conditions for a counterstrike to be conducted by *front* forces. Counterstrikes can also be launched to help part of the army's forces being encircled by the enemy, or to eliminate the encirclement threats facing the army's main forces.

To conduct the counterstrike, it is required that forces and means on the direction of the counterstrike be allocated in such a way that they can provide for the establishment of the necessary superiority over the enemy. It is required that simultaneous measures be taken to foil the maneuver of enemy reserves in the counterstrike area.

The composition of forces conducting the counterstrike will include the following:

—army second-echelon forces and reserves;
—first-echelon forces operating on the direction of the counterstrike;
—first-echelon troops from the areas which are not attacked by the enemy.

The latter will join the army's counterstrike after regrouping. The forces conducting the counterstrike are supported by artillery, engineer troops, and aviation.

While making decisions for the counterstrikes, the army commanders assess the following:

—composition of participating forces;
—their missions;
—method of their movement and deployment;
—missions of the artillery and aviation;
—organizing all-around combat support measures for the conduct of the counterstrike.

The initiation of the counterstrike by powerful fire strikes from artillery and aviation is very crucial. For this purpose the bulk of army artillery must be concentrated on the direction of the counterstrike. The following are deployed on the direction of the counterstrike:

—army artillery;
—attached artillery;
—artillery of the division which participates in the counterstrike;
—artillery of first-echelon divisions in areas where the counterstrike is launched.

It is better to assign a large number of tank units to the first-echelon of the counterstrike and direct their surprise strikes against threatened areas, generally on open flanks of enemy groupings.

The direction of the counterstrike is determined in accordance with its aim and the situation which has developed during defensive combat in due consideration of the following:

—terrain;
—capabilities of rapid movement;
—deployment of forces for launching the counterstrike and its rapid development.

In this context the following are taken into consideration:

—deployment lines prepared in advance;
—lines firmly held by defending troops;
—the situation of the troops which continue in the enemy rear.

The selection for the time of launching the counterstrike is very important. It is better to launch the counterstrike at a time when the firmness and sustainability of the army's defense is not disrupted. Such times would be the following:

—when the enemy has suffered maximum losses;
—his attack is stopped or slowed down;
—the enemy has not yet consolidated the lines he has seized;

—when, by commitment of army second-echelon troops and reserves the superiority of forces and means over the enemy in the counterstrike area can be achieved.

In this way, the enemy can be destroyed by the counterstrike. It is recommended that the counterstrike be launched at the following times:

—when the enemy begins relocating his artillery and tactical delivery means;
—when the enemy has exhausted his immediate reserves;
—while his deeper reserves are delayed by aviation strikes.

Depending on the situation, the counterstrike can be launched against one or both flanks of the main enemy groupings. This form of destruction of enemy groupings which have penetrated into the depth of the defense or an enemy breaking through the defense constitutes the best form of action under the circumstances. This is because during the conduct of such forms of actions threatening areas in the enemy's formation for operations are better exploited. Army troops can rapidly reach the rear of the enemy's main attack groupings and isolate them from their reserves. They can also capture or destroy enemy nuclear delivery means and destroy enemy forces piecemeal.

Launching the counterstrike from the front to divide the enemy and destroy his penetrating groupings piecemeal cannot be excluded. Apparently, such forms for the conduct of counterstrikes are adopted under conditions when, because of the terrain, nature, or time required for the moving forces participating in the counterstrike and concentrating artillery, the conduct of the counterstrike to the flanks of the enemy is not possible. They are also adopted when the counterstrike is conducted to destroy units of the penetrating groupings of the enemy and to establish the defense on a specific favorable line. A *front* counterstrike may be appropriate when it provides for surprise action and ensures the rapid destruction of enemy forces which have penetrated into the depth of the defense.

In situations when the enemy enjoys greater superiority of forces in the army's area, conducting a counterstrike will not be appropriate. In such cases the army's second-echelon forces

(reserves) will operate to repel enemy advances on the directions of his main attacks by occupying and firmly holding the army's defensive belt on that direction. In order to reinforce the defense on such directions, part of the *front* reserves can also be employed. Army counterstrikes may be launched later when they are reinforced by divisions from the *front's* reserves, or they can be launched along with the *front* counterstrike.

When the enemy manages to break through to the operational depth of the defense with large forces and also has reserves available, the most crucial tasks would be the following:

—to stop the advance of enemy forces;
—to inflict maximum losses on him;
—to isolate penetrating enemy groupings from other elements of enemy forces;
—to prevent the movement and advance of enemy reserves;
—to provide favorable conditions for the *front's* counterstrikes.

Ensuring Preparations for the Initiation of Action with the Use of Nuclear Weapons

During the conduct of defensive actions with the use of conventional weapons, the important and constant mission of the army troops is to destroy enemy nuclear weapons. This means that at the phase of the initiation of combat action with the use of nuclear weapons, the enemy's superiority in nuclear weapons is eliminated. This will help in weakening the enemy's initial nuclear strike. On the other hand, special attention must be paid to maintaining the constant combat readiness of rocket troops to deliver nuclear strikes on attacking enemy groupings of forces. This can be achieved by constant reconfirmation and adjustment of missions for delivering nuclear strikes and by keeping the rocket troops at a level of combat readiness that will provide for their capability to overtake the enemy in launching the initial nuclear strike.

An important condition of ensuring the timely delivery of nuclear strikes on the enemy is the conduct of continuous reconnaissance and surveillance of enemy actions. Reconnaissance is

assigned to detect enemy preparations for the use of nuclear weapons and detection and disclosure of targets to be destroyed by nuclear weapons.

At the same time, it is required that measures be taken to keep the groupings of our own nuclear delivery means concealed from the enemy. Therefore, position areas of rocket troops and rocket technical bases must be carefully and thoroughly concealed and camouflaged. The engineer work on the terrain must continuously develop and improve with attention to *maskirovka* requirements. Army commanders must continuously pay special attention to protecting rocket troops from diversionary-reconnaissance actions by the enemy.

During the course of conducting defensive operations, army forces must continuously take the requisite measures for full protection against the impact of mass-destruction weapons. Depending on the degree of likelihood of the use of nuclear weapons by the enemy, the engineer support of occupied defensive positions, particularly in the depth of the defense, are improved in the following ways:

—shelters for personnel;
—cover for combat equipment is reinforced;
—measures are taken to disperse units and subunits of second-echelon forces and reserves;
—radiation reconnaissance forces and means and special detachments for eliminating the consequences of enemy nuclear and chemical attacks are readied to conduct assigned missions.

Combat actions using nuclear weapons begin with the delivery of the initial nuclear strike by rocket troops and aviation forces. These forces are in constant readiness to deliver nuclear strikes. Nuclear strikes must be directed toward the following:

—destruction of enemy nuclear delivery means;
—inflicting losses on the enemy's main attack groupings;
—creation of conditions for the initiation of attack by the defending forces.

VII. Conduct of Army Defensive Operations with the Use of Nuclear Weapons

Forms of Destroying the Attacking Enemy

In defensive operations using nuclear weapons, combat actions by defending forces are directed toward the following:

—inflicting decisive losses on the enemy;
—weakening enemy groupings of forces to the maximum;
—foiling enemy attacks;
—creating conditions for the initiation of the offensive by friendly forces.

Such characteristics of defending force actions emerge from the power of nuclear weapons. The use of nuclear and chemical weapons by the defending forces accomplishes the following:

—disrupting attacks by superior enemy forces;
—foiling enemy prepared offensives;
—enabling friendly forces to quickly pass from defensive actions to active offensive actions.

While actual capabilities of nuclear weapons for the decisive destruction of the enemy and for foiling his offensive is given due consideration, it should be noted that army forces in the defense must repel enemy attacks with a limited number of available nuclear rounds. Therefore, it is often required to inflict losses on the enemy by all available forces and means in a successive manner (the same way as in the defensive operation with the use of conventional weapons) until conditions are provided for the infliction of decisive losses on the enemy by a nuclear strike. Along with employment of nuclear and chemical weapons the following must be exploited to complete the destruction of the enemy:

—launching active offensive actions by the troops;
—making maximum use of conventional weapons in an effective manner;
—firmly holding vital terrain areas in the army's defensive sector;

—[exploiting the] massive use of nuclear weapons.

Methods of Enemy Destruction

Methods of the destruction of enemy groupings can be in various forms. One form requires destroying the enemy by rocket troop strikes and by nuclear weapon employment by aviation. The other form entails the use of chemical and conventional weapons in combination with actions to firmly hold and maintain defensive lines and belts, while the destruction of the enemy's main groupings is sought through launching counterstrikes with massive use of nuclear weapons.

Forms of Conducting Army Defensive Operations

The principal forms of conducting army defensive operations with the use of nuclear weapons is to inflict losses on the enemy in the following ways:

—using nuclear and chemical weapons;
—[with] fire by conventional means;
—holding vital lines and areas;
—repelling strikes by the air enemy;
—launching counterstrikes in the wake of massive nuclear strikes.

Foiling the enemy's offensive may be achieved by inflicting successive losses on him during all phases of his offensive, as well as by massively employing nuclear weapons at the phase when actual conditions for this action are provided.

When defense is assumed under conditions of no direct contact with enemy main forces ([and] when the enemy's attack or his counterblow is likely), nuclear and chemical strikes on the enemy moving on approaches to the defense may be delivered. The following forces may conduct counterpreparatory strikes under favorable conditions against the groupings of enemy forces which deploy for the attack:

—rocket troops;
—aviation,

—artillery;
—tanks.

Following counterpreparatory fire a strike by tank and motorized rifle forces in front of the forward edge may be launched.

Assuming the Defense

When assuming the defense in direct contact with the enemy's main strike groupings, the defensive actions of the army can begin immediately after repelling the enemy's attack. This is accomplished by using conventional weapons combined with delivery of nuclear and chemical strikes on nuclear delivery means and reserves.

The beginning of the army's defensive operation may coincide in time with the initial nuclear strike of the *front* at the following times:

—when assuming the defense under the threat of enemy initiation of nuclear attack;
—when enemy nuclear attacks are deemed likely in the course of combat actions conducted with conventional weapons.

Initiation of the offensive operation depends on the effectiveness of the *front's* initial nuclear strike and on the combat capabilities of friendly forces hit by enemy nuclear strikes. When the defense is assumed only after nuclear exchanges of both sides, the conduct of defensive operations begins with the following:

—delivery of repeated nuclear and chemical strikes;
—air and artillery fires against newly detected enemy nuclear delivery means and enemy groupings which have initiated the attack.

Meanwhile, measures are taken to restore the combat effectiveness of the troops. Therefore, destroying enemy groupings and foiling his attacks may be conducted by the following forms of action:

—launching nuclear and chemical strikes against enemy groupings on approaches to the defense (in staging areas and during enemy advance and deployment for the attack);
—conducting counterpreparatory fire on enemy groupings which have deployed for the attack;
—inflicting losses on the enemy with nuclear and chemical weapons and fire by conventional means during the repulsion of enemy attacks;
—launching army counterstrikes against enemy groupings which have penetrated into the defense;
—initiating the offensive.

Selecting any one of the aforementioned forms of enemy destruction may in the course of the conduct of the army's defensive operation depend on the consequences of the following:

—nuclear strikes by *front* means;
—army capabilities to use nuclear and chemical weapons;
—composition of enemy groupings and the nature of his actions;
—status and situation of army troops.

Inflicting Enemy Losses on the Approaches to the Defense

When enemy strike groupings first advance and deploy and then initiate the attack, the actions of army troops are primarily directed toward foiling the enemy's preparation for attack. To ensure achievement of this objective, strikes by rocket troops and aviation, using nuclear and chemical weapons and conventional means, may be launched on the following targets:

—enemy nuclear delivery means;
—enemy main groupings of forces on approaches to the defense;
—enemy staging and deployment areas;
—enemy command posts;
—important enemy rear service installations.

When prepared nuclear and chemical rounds and means of their delivery are available, strikes on advancing groupings of

enemy forces may be launched when the enemy advances along distant approaches to the defense. When delivery of massive nuclear strikes by nuclear delivery means of the *front* is feasible, strikes are aimed at foiling enemy preparations for the attack (counterstrike).

When only a limited number of nuclear and chemical rounds are available, strikes are launched on the enemy during his advance along distant approaches to the defense in order to accomplish the following:

—delay concentration of enemy forces;
—gain necessary time for preparing the defensive operation;
—weaken enemy forces prior to the initiation of their attack.

Aviation Targets

Aviation primarily launches its strikes against moving targets. Meanwhile, aviation disrupts the movement of enemy groupings of forces and weakens enemy forces in their staging areas and during their advance and deployment. Aviation also conducts the following:

—air reconnaissance;
—covering friendly troops and rear service targets against enemy air attacks (in coordination with air defense forces);
—detecting and destroying enemy nuclear delivery means.

The rocket troops launch strikes primarily on permanent [fixed] targets and other targets whose coordinates are known. Nuclear strikes by rocket troops on moving columns of the enemy are launched when enemy columns are passing through areas where their maneuver to evade strikes by friendly forces is impossible or difficult. Such areas would be:

—crossings;
—passes;
—narrow passages;
—other areas.

Such strikes are launched on the basis of air reconnaissance information regarding the movement of enemy columns through

these kinds of areas. The army's rocket brigade may launch nuclear strikes on targets located at a distance of 200 km from the forward edge.

It is recommended that strikes by aviation and rocket troops on enemy forces be conducted with the use of chemical rounds against the following targets:

—staging areas;
—enemy march columns while they move through narrow passages;
—other difficult terrain.

As enemy forces come into range of tactical rockets (40-50 km from the forward edge), they are hit by tactical rocket strikes using nuclear and chemical rounds. Rounds are prepared in accordance with the orders of army or division commanders. Nuclear and chemical strikes are followed by artillery fire strikes. Given the limited number of forces and means in defense, including the small number of nuclear rounds, it is often better to employ the following means:

—nuclear ground bursts;
—more persistent chemical weapons and incendiary material on enemy advance routes;
—creation of large contaminated areas;
—destruction and flooding of areas along enemy attack directions.

The aforementioned are done so that maximum losses can be inflicted on the enemy and so that the advance of enemy forces is delayed for a longer period of time. In addition to inflicting direct losses on enemy forces and delaying their advance on the approaches to the defense, the aforementioned measures taken by defending forces compel the enemy to operate in contaminated areas, divide the enemy into individual groupings, and may force the enemy to refrain from continuing the attack on the specified direction. In such circumstances the following must be taken into consideration:

—meteorological conditions;
—security distances to the friendly forces;

—nature of future actions.

When the enemy needs time to conduct the deployment of his nuclear delivery means and his other forces prior to the initiation of the attack, a counterpreparatory fire using nuclear, chemical, and conventional weapons may be launched against enemy force groupings which are conducting the attack. The aim of counterpreparatory fire may be foiling enemy preparations for the attack or weakening his strike forces. Conditions required for the conduct of counterpreparatory fire are the following:

—availability of the necessary number of prepared nuclear and chemical rounds which can support the delivery of massive strikes on the enemy;
—availability of the time required to prepare such strikes.

Since army forces assume the defense as a forced form of action because of the lack of forces and means and the superiority of attacking enemy forces, the army will have a limited number of forces and means. Therefore, the army must make efforts to maximize the effects of available means by using them economically, wisely, and efficiently at decisive phases and against important targets. Such a decisive phase may be the phase of deployment of the enemy groupings. Launching nuclear strikes on concentrated enemy groupings during their deployment for the attack is more effective, and is preferred over hitting the enemy with nuclear strikes during his advance from the depth (along the distant approaches to the defense).

The *front* commander will be the organizer when the principal means for conducting counterpreparatory comes from the *front*. Counterpreparatory fire is conducted by employing rocket troops, aviation, artillery, and tanks which will launch massive strikes. When enemy strike groupings are concentrated a long distance from the forward edge, counterpreparatory fire is engaged by rocket troops and the air force. Artillery engages and inflicts losses on enemy artillery troops located within its effective range.

Rocket Troop Targets

During counterpreparatory fire targets of rocket troops may be the following:

—groupings of first-echelon troops in attack staging areas;
—deployment lines;
—second-echelon troops in staging areas;
—command posts;
—control and warning centers;
—rocket launchers in launch positions;
—nuclear artillery batteries in fire positions;
—air defense rocket batteries;
—bridges and crossings on advance routes;
—airfields for nuclear armed aircraft.

Aviation Targets

Targets for aviation strikes will primarily include the following:

—nuclear rocket means;
—groupings of tanks in march;
—airfields;
—radio-electronic and control systems of aviation and air defense forces;
—command posts which are not destroyed by rocket troops.

Artillery Targets

Artillery troops generally destroy enemy first-echelon troops which are not destroyed by nuclear weapons. Within its effective range artillery destroys the following:

—nuclear delivery means;
—enemy personnel and equipment;
—enemy artillery;
—important command posts.

Of defending troops, only artillery operates in the area where counterpreparatory fire is planned. Artillery in adjacent areas

participates [also] in counterpreparatory fire. Maneuver by second-echelon artillery forces and forces from other areas of the *front* are not practical under these circumstances because of the risk of their destruction by enemy nuclear strikes. Therefore, in order to achieve greater results, the employment of conventional artillery is sometimes taken into account in the conduct of counterpreparatory fire. Effectiveness of artillery fire during counterpreparatory fire may be increased by the use of chemical rounds.

Depending on the availability of means of destruction in the army, the situation, particularly the number and status of the enemy strike groupings, counterpreparatory fire may be launched simultaneously on all groupings of enemy forces which are preparing for the attack. It may also be launched only on the main groupings of the enemy. When a limited number of nuclear rounds are available, they must be used to destroy enemy nuclear delivery means or those enemy force elements which pose the major threat at the time. In this case other enemy troops and targets are destroyed by conventional means.

In order to decisively destroy enemy strike groupings which are making preparations for the attack, and to seize areas which provide favorable conditions for initiating the attack or provide for the improvement of the situation regarding the army's defense, it is necessary to follow counterpreparatory fire by launching a strike by tank and motorized rifle troops against enemy groupings hit by counterpreparatory fire.

When counterpreparatory fire leads to decisive losses of enemy strike groupings, then in order to launch a powerful strike in front of the forward edge, capable forces are assigned to rapidly exploit the consequences of counterpreparatory fire for enemy destruction. Under such conditions, strikes launched by individual units from the first-echelon large units are totally acceptable. The success of these troops may be developed by the main forces of first-echelon large units or the second-echelon large units of the army.

When despite nuclear strikes, counterpreparatory fire, and strikes by forces in front of the forward edge, prepared enemy offensives cannot be foiled, the army commander takes all

measures to inflict losses on the enemy and repel enemy attacks by conducting defensive actions with first-echelon troops.

Repulsion of Enemy Attacks

When the strongest and the most threatening enemy grouping in the army's area is disclosed, additional strikes by rocket troops and aviation are launched against that grouping. The primary targets of these strikes are the following:

—enemy nuclear delivery means;
—groupings of tank troops;
—important enemy command posts.

When nuclear weapons are available, fire strikes must also be launched on the following:

—approaching reserves;
—air fields;
—crossings;
—road centers;
—other targets.

On individual directions, along with destroying enemy targets, radioactive and chemical contaminated areas may be created. Air defense means in coordination with fighter aviation destroy the air enemy, not allowing him to deliver strikes on defending troops and other friendly targets.

When the enemy initiates the attack, the main effort of defending forces is directed toward rapid and decisive destruction of the groupings of attacking forces in the defensive areas of the army's first-echelon divisions. This is ensured by the following:

—delivering strikes by rocket troops, aviation, and artillery using nuclear, chemical, and conventional rounds;
—firmly holding vital terrain lines and areas on directions of enemy attacks (up to the point when first-echelon individual units and large units may have to continue combat actions while the enemy encircles them);

—surprise counterattacks by second-echelon troops and reserves.

In order to cover gaps resulting from enemy nuclear strikes, artillery fire is concentrated and antitank reserves and mobile obstacle detachments of regiments and divisions are assigned. Elements of second-echelon units, preferably tanks and BMP mounted motorized rifle troops, are moved to cover the gaps when needed. In areas hit by enemy nuclear and chemical strikes, the following measures are taken:

—the situation is reconfirmed;
—measures are taken to restore the combat effectiveness of troops;
—the consequences of the use of nuclear and chemical weapons are eliminated.

When the enemy penetrates the defense, first-echelon large units are assigned to accomplish the following:

—firmly hold advantageous terrain lines and areas on important directions by fire and decisive counterattacks;
—inflict maximum losses on the enemy;
—divide enemy combat formations;
—delay enemy advances to the depth.

These measures will provide favorable conditions for destroying penetrating enemy forces by counterstrikes from army second-echelon forces. Strikes by tactical nuclear rockets may be launched against enemy forces penetrating the defense.

When defense is conducted with nuclear weapons, counterattacks by second-echelon regiments are, as a rule, conducted simultaneously with counterattacks by second-echelon divisions. Prior to counterattacks, losses are inflicted on the enemy by nuclear and chemical weapons, air strikes, and fire of all means. Strikes are launched in such a way that contaminated and destroyed areas do not impede maneuver by counterattacking forces.

When nuclear weapons are massively used by the enemy and when the enemy has an obvious superiority in forces and means, particularly in tanks, counterattacks are normally not conducted.

In this case divisions firmly defend their prepared positions and inflict losses on the enemy by all types of fire which will in itself lead to the creation of required conditions for army counterstrikes.

In order to destroy enemy airborne assault troops, nuclear and chemical weapons are used and air strikes using conventional ammunition are launched. The closest reserves to the location of the landing areas of the enemy airborne troops, primarily tank troops, are rapidly moved to counter the enemy. Special attention must be directed toward the following:

—conducting measures to protect troops against mass-destruction weapons;
—eliminating the consequences of the enemy use of mass-destruction weapons;
—restoration of disrupted troop control, air defense systems, combat effectiveness of troops, and interaction among them primarily on the direction of the enemy's main attack.

In order to restore the combat effectiveness of first-echelon forces, the reserves may be employed. Relocation of troops facing great losses due to radioactive and poisonous contamination is also affected. Rescue operation must be conducted by all arms with participation from all rescue units and subunits to accomplish the following:

—clear routes for maneuver by troops;
—[carry out] supply and evacuation;
—[carry out] medical decontamination of personnel;
—conduct degasification and disactivation of weapons and combat equipment.

Such efforts must be made first-priority in areas where they will not interfere with actions of troops involved in intensive combat actions to repel enemy attacks and to destroy enemy airborne assault troops.

While repulsing enemy attacks, the army commander concentrates reconnaissance efforts to detect and disclose the following:

—enemy nuclear delivery means;

—other means of mass-destruction;
—radio-technical means;
—command posts.

Army commanders also take measures to quickly destroy such targets by all available means. Under some conditions tactical airborne assaults may be used to accomplish this task. Meanwhile, the army commander pays special attention to the following:

—issues of receiving and stockpiling nuclear rounds;
—establishing strike groupings and effecting their support measures;
—thoroughly preparing massive nuclear strikes against groupings of enemy forces which have penetrated the defense;
—conducting counterstrikes.

Destruction of Penetrating Enemy Groupings and the Conduct of Army Counterstrikes

Groupings of enemy forces which have penetrated into the defense are destroyed by launching nuclear and chemical strikes against them in combination with the fire of conventional means and the conduct of decisive counterstrikes. Army counterstrikes using nuclear weapons will not only ensure destruction of enemy groupings already in the defense, or ones breaking through the defense, but it will also provide favorable conditions for the initiation of the army offensive.

Under conditions using nuclear weapons it is important that army counterstrikes be launched against one or both flanks of enemy groupings. Nevertheless, under such conditions counterstrikes may also be conducted from the front to divide enemy groupings and then to destroy them individually. Counterstrikes from the front are obviously launched when the army possesses nuclear rounds for inflicting decisive losses on the attacking enemy groupings or when the movement of large units of the army first-echelon to the flanks of enemy groupings requires a great amount of time due to terrain conditions. Counterstrikes may also be conducted in a combined form of frontal and flank

strikes launched simultaneously. During counterstrikes, nuclear strikes are launched on the most vital and well known enemy targets. Damaging these targets will provide for quick destruction of penetrating enemy groupings. Such targets include the following:

—nuclear weapons;
—enemy troops in main force groupings, primarily tanks;
—approaching reserves;
—enemy command posts.

To conduct the counterstrike, the following groups operating along directions of planned counterstrikes are assigned:

—army rocket troops;
—air support;
—artillery;
—second-echelon divisions;
—army reserves;
—first-echelon large units and units.

In order to ensure success during the conduct of counterstrikes, it is required that the following be accomplished:

—newly detected enemy nuclear delivery means must be destroyed;
—losses must be inflicted on enemy reserves which are approaching from the depth;
—groupings of friendly forces which conduct counterstrikes must be effectively and reliably covered against enemy air attacks;
—flanks of the groupings must be supported by deployment of antitank reserves, mobile obstacle detachments, and the establishment of engineer obstacles.

The formations for operations of troops assigned to launch counterstrikes must rapidly exploit consequences resulting from the use of nuclear weapons and must ensure delivery of a powerful initial strike and the complete destruction of enemy attacking forces in a short time. When selecting the direction of counterstrikes, the following are taken into consideration:

—destroyed terrain;
—high risk radioactive contaminated areas;
—areas contaminated with poisonous material.

Counterstrikes must begin after delivery of massive nuclear and chemical strikes. Following nuclear strikes, artillery preparatory fire consisting of fire strikes lasting 10-15 minutes may be launched when required. In order to ensure effective artillery preparatory fire, it may begin with a fire strike of chemical ammunition lasting one minute. Artillery support is conducted by concentrated fires, and on-call fire against individual targets.

Actions of large units participating in counterstrikes must be characterized by decisiveness and must continue without halt so that enemy main groupings are destroyed quickly and conditions are created for the initiation of a decisive offensive by all army troops.

While conducting counterstrikes heliborne assault troops may be employed to seize and destroy the following:

—nuclear delivery means;
—command posts;
—signal centers;
—seize advantageous terrain areas on advance routes of enemy reserves.

After destroying enemy groupings which have penetrated into the defense and restoring the previous situation, all army troops must be prepared for the initiation of attack. For this purpose during the conduct of the defensive operation the following must be accomplished:

—necessary regrouping of forces;
—restoration of reserves;
—replenishment of materiel reserves.

In order to support these measures the army is reinforced by *front* forces.

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CHAPTER EIGHT

Combined Arms Army in the Long Distance March

I. Introduction

The conduct of operational and strategic military operations in a theater of strategic military action (TSMA) is directly connected with the requirements of expanded efforts by first-echelon operational formations. The extremely large dimensions of operational areas, the decisive nature and high speed of modern operations, the widely dispersed locations of forces organic to military district commands, and the large distances between the units of most of the military district commands and the USSR's international boundaries, necessitate and require long marches by the troops and reserves to combat action areas. Therefore, the main part of advancing forces must cover a distance of 1,000 km or more while marching to the front.

In modern conditions hiding and concealing the march is extremely difficult, therefore, marches are conducted under the threat of enemy interference and reaction (including the employment of nuclear weapons) in the initial phase of war, within any distance from the front line. In such a situation friendly forces

are required to be prepared to conduct long-distance marches under conditions of permanent threat from enemy nuclear weapons, aviation action, airborne operations, and diversionary-reconnaissance groups, chemical, biological, and radioactive contamination, and destruction of roads and passes caused by enemy action.

The study of the organization and conduct of the march by operational formations over long distances is particularly important in officer and staff training and practical experience.

This lecture describes the principles and techniques of the organization and conduct of marches by the combined arms army over long distances, particularly in the Western Theater of Strategic Military Action (TSMA).

The following are discussed in this lecture:

—aim and likely conditions of the army's long distance march;
—types of movement;
—organization of the combined arms army's march;
—conduct of the army's march;

II. The Aim and Likely Conditions of the Army's March Over Long Distances

The objective and marching conditions of the army's movement are dependent on the following: the area of combat action; the military and political situation; the operational and strategic situation in the theater of strategic military action (TSMA); missions of the *front* that the army is or will be subordinate to; probable character of enemy actions; conditions of units' deployment (permanent garrisons); composition, level of combat readiness, and training of the army units and staff; psychological status and morale of personnel; state of marching zones; and the army's rear service support capabilities and other factors.

The combined arms army marches in the theater of strategic military action (TSMA) for the following purposes:

—accomplishing missions to support the development of an operation by operational first-echelon forces, or reinforceing *front* reserves in strategic operations conducted in the theater of strategic military action;
—establishing new groupings of forces on new directions;
—covering gaps created in the course of action, in operational formations of *front* forces;
—destroying individual enemy groupings;
—establishing Supreme High Command Reserve in the TSMA;
—other purposes.

The army may operate in the first or second-echelon of the *front* and can be employed in the direction of main attack or the supporting attack direction. The army may conduct the march prior to the outbreak of war, at the beginning of war, or during the war. In all these cases, the decisive and determining factor is enemy action. A march prior to the outbreak of war is conducted without enemy interference. There might be cases in which the army may start marching before the commencement of war, under permanent threat of the outbreak of hostilities, and accomplish it while the war has newly begun. The march can be conducted from beginning to end in combat situations without the employment of nuclear weapons. In such cases the march columns will be exposed only to enemy conventional weapons and air strikes.

Marching under the condition of nuclear weapons' employment is very complicated and difficult. In such situations army forces will come under enemy nuclear strikes and will be forced to negotiate areas of destruction and fires caused by nuclear attacks on the march directions, and pass through heavily radioactive contaminated areas. The targets of enemy nuclear strikes will be military posts [permanent deployment areas of army units], assembly and mobilization areas, embarkation areas of friendly forces, road junctions, mountain passes, crossings over large rivers along the march routes of army units, and the units themselves, particularly when they are crossing obstacles and while they are in bivouac or halt areas.

The degrees of likely radioactive contamination of the army's march zone caused by enemy nuclear attacks are shown by Table 1. As the table indicates the enemy may employ 25-60 nuclear weapons of various yields on army units and rear service installations in their assembly areas, as well as on the march zone, during his initial massive nuclear strikes. If 50 percent of the weapons uses are ground burst, they can contaminate the entire assembly area of the army and may create two to three radioactive contaminated zones in the army's march sector, each having a 100-200 km depth. In addition important road junctions, crossings over large rivers, and vital mountain passes in the army march zone will be partially or totally destroyed.

To delay the march and inflict damage on friendly forces during the march, the enemy can employ chemical and biological weapons and may drop airborne units and diversionary-reconnaissance groups on march routes. Therefore, march columns must act vigorously to pass through the obstacles created by enemy action and to retain their combat capabilities.

The degree of a march sector's preparation and improvement, as well as physical and geographic conditions of the TSMA (primarily the presence of communications routes and natural obstacles), seriously affects the marching of army units. When organizing and conducting an army march in the Western TSMA, the following should be considered:

—existence of large-and medium-size rivers. Large rivers (such as the Vistula, the Oder, and the Rhine) are confronted every 150-300 km and medium rivers, 100 m in width, are encountered each 30-60 kilometers, flowing from north to south;

—presence of limited numbers of railroads and motor routes in the eastern part of the theater. In an area 150-200 km wide there are only one to two railroads, three paved motor routes (with a capacity of 7,000-8,000 vehicles a day) and four to six inspected dirt roads;

—marching distance from the Dnieper River to the Rhine is 1,500-1,600 km on average. The great length of this distance requires much time for the accomplishment of the

march, significant fuel, transportation resources, and other substantial expenditures.

The larger the daily and total distances of the march are, the more time is to be allotted for field maintenance and repair of tracked and wheeled vehicles in their rest areas. Experience from field exercises indicates that more than one to two days will have to be spent for first-echelon maintenance on vehicles during the conduct of a march in the Western TSMA to cover the total required distance.

The location of permanent military posts of units, composition and status of army units, the state of their readiness, and the depth of march columns in long marches largely affect the conduct of the march and movement. In peacetime army units earmarked for marching at first priority, or units located in the border areas of military district commands, are kept in the higher state of readiness. Normally, rocket forces, air defense units, and a specific number of infantry large units are kept in constant combat readiness, which means that they are maintained at full combat strength in terms of personnel and combat vehicles and equipment, or they are slightly understrength [only in personnel]. The remaining units and large units are at reduced strength. Just prior to the outbreak of war, the latter are rapidly brought up to full strength by using mobilization reserves. Due to inadequate time for their preparation of march, such units and large units will need to take additional action to organize fully new units and subunits and to distribute and reallocate newly received transport vehicles.

There are also other factors affecting the conduct of the march by army forces, such as the morale and political status of the population in the march zone, meteorological conditions, and the time of the day specified for movement.

III. Types of Army Movement

In recent times more importance has been given to unit march movement. Units and large units should have the following capabilities: conducting marches over long distances at high speeds; passing from one type of movement to another;

promptly changing the axis of movement; rapidly deploying from march column into combat formations and being committed in an organized fashion into combat; and finally, they should easily be controlled during the march and in course of combat actions. Ground forces should normally cover distance of 300-400 km a day by march.

The army can move over long distances by march independently or as part of the *front*. The combined arms army may move entirely by march or part of its units may move by railroad, water, or air transportation or even by a combination of some or all types of transportation means.

The study of different types of movements indicates that none of them individually can meet requirements of troops moving over long distances, especially under conditions of nuclear weapons employment. Each type has specific advantages and disadvantages.

March

In the modern period, the march is the basic type of troop movement. The march is the organized movement of units in march columns, on roads and column routes, to reach a specified area or designated line (objective) on time and in a state of complete combat readiness.

The march can largely provide, as opposed to other types of movement, the possibility of secret preparation of units for movement; the retention of units' and large units' full organizational integrity and combat readiness to accomplish combat missions in all phases of the movement; the reduction of the effects of enemy strikes on friendly forces; and the capability of conducting maneuver to bypass contaminated areas, destruction, and [water] inundation. The march also ensures high speed of unit movement. Practical experiences of actual marches by tank and motorized rifle divisions indicate that such units can conduct the march to a distance of 1,000-1,500 km with a daily march to of 330-350 km over difficult march routes.

In organizing and planning the march, the different characteristics and capabilities of combat and transport vehicles

affecting the average rate of speed in march columns and requiring detailed organization of maintenance and repair support and fuel supply, must be fully considered. The great physical stress on personnel during the conduct of long marches, especially on drivers, requires the allocation of sufficient time for rest and hot meals. The necessity of maintaining the operational range [reserves of engine and truck life] of heavy tracked vehicles requires the employment and allocation of a large number of trailers, which in turn require the presence or construction of bridges with a capacity of 80-100 tons. Finally, the effective accomplishment of missions on the march by units depends on the state of routes, crossing sites, passes, and meteorological conditions.

When movement is conducted by the march method relying on organic vehicles, the march capabilities of the army are determined by the daily distances covered by units and large units employing organic combat and transport vehicles to the extent of their normal endurance, as well as by norms for personnel endurance for conducting the desired distance of march in a day. This capability depends on troop experience and practical abilities, the technical and performance state of vehicles, the preparedness of march directions and routes, the season of the year, and day and night conditions. During World War II some of the army corps covered 600 km in two-and-a-half days, with an average daily march to of 250-300 km.

Today, the technical performance and maneuverability of armored and motor vehicles are much improved over the last war, and army units, when marching with their organic vehicles, should cover longer distances at higher speeds. Therefore, they will march as much as 300-350 km or more in a day. It is assumed that by covering such distances in a day, the combat capabilities of the units can be preserved when they are committed into significant combat from the march to carry out offensive operations in great depth.

In order successfully to accomplish missions in long distance marches in the Western TSMA (1,000-1,500 km), and achieve the aims of subsequent offensive operations of the army in that theater, it is recommended that tanks should always be kept in

combat parks in a state that would allow up to 3,600 km of range. This means that at any time tanks should be able to march up to 1,000-1,500 km, followed by their commitment into offensive operations which will be extended farther up to 1,000 km. This calculation can be elaborated as follows:

—march distance 1,000-1,500 km, with a maneuver coefficient [in the cause of the march] of 1.2:1,000-1,500 = 1,200-1,800 km;
—depth of offensive operation after the march: 1,000 km, with a maneuver coefficient [in the course of offensive operations] of 1.8:1,000 = 1,800 km;
—total 1,200 to 1,800 km + 1,800 km = 3,000-3,600 km.

If the performance range of the tanks is less than the above-mentioned figures, changing tank tracks will become necessary in the course of offensive operations, or sometimes in course of the march (which is absolutely undesirable).

The experience of World War II and recent field exercises indicates that the average speed of motorized columns on paved highways can be 30-40 km per hour, on dry dirt roads 20-25 km per hour, and on muddy and mountain roads 10-15 km per hour. At night and in fog the average speed of march is reduced to 25-30 percent of the daytime speed. Mixed columns of tanks can move at an average speed of 20-30 km per hour on paved highways, 15-20 km per hour on dirt roads, and 10-12 km per hour on muddy and mountain roads.

Thus, the practical experience of troop exercises indicates that mixed columns of motorized and tank units can move at an average speed of 20-30 km per hour, and motorized columns 30-40 km per hour. Therefore, divisions can march successfully up to 250-300 km or more in a day. In this case the troops spend 13-16 hours in marching (including three to four hours in halts). Moreover, one to one-and-a-half hours are required for march columns to reach the start line from their assembly areas, and another one to one-and-a-half hours is required to deploy in daily (nightly) rest areas and for proper emplacement of vehicles and their concealment in such areas. An additional five hours are allocated for the rest of personnel, hot meals, technical

maintenance of vehicles, and the replenishment of vehicles with POL [GSM—*goriuchee i smazoch-nye materialy*].

In mountains, deserts, northern (arctic) regions, marshy areas, and jungles, as well as in wintertime and muddy areas, the average speed and daily range of the march decreases considerably. The march should always be conducted at the maximum rate of speed.

When planning long distance marches, it must be noted that in most march columns each vehicle is operated by only one trained and specified driver. But the physical capabilities of all drivers are not the same. Therefore, attempts must be made in peacetime to train the most capable members of squads and crews as auxiliary drivers. The importance of the technical readiness of conserved vehicles and their preparation for long distance marches is growing rapidly.

All of these factors require that the march capabilities of units should be greatly increased by further supporting the preparation of units and large units for conducting long distance marches with a daily range of 300 km and more per day, at high speed without vehicle exhaustion, and finally with retention of constant capability of the units to enter combat action effectively.

Movement of Forces by Railroad Transport

The movement of forces by railroad has been vitally important. From 1941 to 1944, 55 combined arms armies and 16 tank armies were moved by railroad in the Soviet Union. In modern times railroad transportation will be widely employed for the movement of Ground Forces from the interior to areas of combat actions. This type of movement will preserve the physical strength of personnel and the technical performance of vehicles, will economize POL consumption, and will ensure the desired rate of speed regardless of the impact of meteorological, seasonal, or day and night conditions during the movement. But railroads are vulnerable to nuclear attacks, [other] strikes, and the action of enemy diversionary groups. Railroad transportation of units requires the organization of air defense, the allocation of larger units and means to repair and restore destroyed areas, as well as the establishment and preparation of temporary

embarkation and loading areas. Another problem in railroad transportation of Ground Forces is the hindrance of and difficulties in unit control.

When planning Ground Forces' movements by rail in the Western TSMA, it must be noted that in the 150-200 km-wide movement zone of the combined arms army, there will be one or two railroad directions available for the army, with a total capacity of 50-60 pairs of trains in a day. In a period of threat, 70-80 percent of railroad transportation capacity can be employed for military transportation purposes, which will be 35-50 pairs of trains in a day. By employing such numbers of trains, the heavy combat vehicles and equipment of two motorized divisions can be transported in a day.

Practice and experience indicate that the transportation of large units at full strength by railroad is advisable only for distances of 1,000 km and longer. In this case, the transportation of a combined arms army comprising four motorized divisions and one tank division, by railroad into the Western TSMA requires 400-450 trains. The requirement for a motorized rifle division is 50-60 trains; and for a tank division, 48 trains. The technical equipment of modern railroad systems facilitates troop movements at the following rates of speed: on USSR territory 600 km per day and, on some routes up to 1,000 km per day. The average speed of movement for a division along one route is 10-18 trains per day; for the army on four routes it is 40-60 trains per day.

Movement of Ground Forces by Water and Sea Transportation

Water and sea transportation play a vital role during Ground Force operations in coastal areas. Transportation is conducted by assault ships and transport vessels. The embarkation of personnel and loading and unloading of vehicles and technical equipment are usually conducted at naval bases; outside of permanent naval ports; in small, protected gulfs; as well as by the employment of ships with their own loading and unloading capabilities. All these measures facilitate the dispersion of the units in case of enemy nuclear attacks.

Movement of Ground Forces by water (river and sea) transportation is conducted over long distances, which requires less time, especially when land transportation routes are destroyed.

When planning movement of forces by river and sea transport, consideration must be given to protective measures and strong air defense on exposed open seas. The following means are required for the transportation of motorized and tank divisions: 35-50 ships with a transport capacity of 1,500-3,000 tons each; or 16-18 ships with transport capacity of 4,000-5,000 tons each; or 7-12 ships with a transport capacity of 12,000-13,000 tons each.

Movement of Ground Forces by Air Transport

The high maneuverability of air transport means ensures the rapid and secret movement of troops over great distances. In one field exercise a motorized rifle division, without its heavy equipment, has been transported 1,700 kilometers by air in only seven hours.

It should be noted that the employment of transport aircraft is connected with the problem of necessary airfield facilities and meteorological conditions. This also requires that a strong air defense system must be organized, particularly at the landing areas. The relatively small transport capacity of aircraft and helicopters has made air transportation very expensive. For example, the air transport of a motorized division without its heavy equipment requires up to 800 AN-12 transport aircraft. In other words, four military air transport divisions must fly twice in order to transport one motorized division by air. Today, with the introduction of more improved types of transport aircraft, the capability to transport Ground Forces by air over great distances is increased greatly.

Combined Type of Movement

Combined movement is the method of employing various types of transportation means in the movement of Ground Forces by march. In this case, the form of unit movement can

differ. For example, the army's main forces may move by march while part of its forces (tank, rocket and other units and large units) will be transported by railroad and water (river, sea) transport. The main forces of large units (without their heavy equipment) can be air-transported, while their heavy equipment is moved by railroad or water transport.

In such instances the combat capabilities of heavy equipment is preserved, and the number of required transportation means decreases (for a motorized division, in this case, 50-60 aircraft and up to 28 trains are required). In this case, a considerable reduction in the materiel consumption of units during the march can be achieved. The disadvantage of combined movement is the breaking up of large units' organization and difficulties in troop control.

Combined movement, in modern conditions, meets the requirements of moving Ground Forces over great distances. When planning and organizing marches, the time and place of a marching units' rendezvous with its rail-transported heavy equipment must be specified, and special measures must be taken to ensure troop control adequate for the accomplishment of combat missions in different phases of the movement.

At the same time it is necessary to consider the possibility of rapid changes in the situation, especially in case of enemy reactions on the movement routes of army units during conduct of troop movements. When operating without the employment of nuclear weapons or when the army is passing over to a phase of nuclear weapons employment, such a situation may arise, at the outset of troop movement, that combined movement might become unreasonable and undesirable. In case of severe destruction along communications lines, rail transportation capacity may decrease greatly or might be cut completely for a while. Deep penetration by an enemy strike grouping, the landing of enemy operational airborne units at the rear of friendly forces, newly received combat and operational missions by the army, and other similar instances may require that troop movement be conducted only by march.

IV. Organization (Planning) of the Combined Arms Army's March

The successful march and advance of the army's units to combat areas is closely dependent on early planning and organization.

A large series of measures are taken, even as early as peacetime, on the basis of the army commander's instructions, in support of the constant preparedness of units for rapid and organized march.

The plan of march is organized and constantly reviewed. In addition, the following actions are taken: early preparation of future march zones; replacement of materiel reserves in army units and along the army's march routes; maintenance of combat and transport vehicles in a state of permanent preparedness for march; detailed preparation of the army in all aspects for movement; planning the march; continuous and reliable control of the units; staff training; and cooperation with allied armies' staffs, in territories through which the march of the army is planned.

The army staff prepares operations orders well in advance to be issued when necessary to units and large units, and also prepares necessary topographic maps and the documents concerning the secret control procedures for the troops.

During peacetime necessary amounts of POL, food supplies, combat vehicle reserves, and a system of medical treatment and evacuation are established in the possible future marching area of the army, to an extent that the materiel supply requirements of army units can be met.

The march routes and engineering and hydrotechnical installations are reconnoitered, evaluated and maintained in operating status. At the same time necessary repair and maintenance means and materiel are established on the march routes, and when required, new (alternative) march routes are constructed as well.

The development of communications systems is effected in close consideration of future movements by army units. In the units, combat and transport vehicles are maintained in a state of constant readiness for the march, and necessary measures are

taken to enhance the preparation of units for the march and to increase their ability and responsiveness for a quick transition to a level of full combat readiness.

The commanders and staffs further increase their capabilities in controlling the units and bringing them up to a level of full combat readiness, as well as guiding and leading them in case of mobilization and when the units are conducting long distance marches. This process is organized and conducted on the basis of the actual plan, through a system of combat and political training, command and staff exercises, staff exercises, and field exercises.

The initial bases for making decisions and planning the march are the operation order or combat instructions of the military district commander or the *front* commander, the conclusions derived from the clarification of the mission [clarification of assigned combat task], and the conclusions of the estimate of the situation.

The military district (*front*) commander will assign the following to the army commander in his operation order: composition of the army; objective, time, and methods of march; allocation of transportation means and the method of their employment; and actions taken by the General Staff and military district (*front*) in support of the march and troop control.

The army commander personally makes the decision for the march, following a thorough clarification of assigned mission and a full estimate of the situation. He specifies the following in his decision:

—character of possible enemy action;
—concept of future operations and, accordingly, the grouping of army forces in the initial area, during the march, and in final assembly areas;
—forms and directions of units' march, start line, march regulation lines, length of daily and nightly march, army formation of march, and arrival time of units in new locations;
—missions of the army's large units, to include initial areas, directions of march (and when moving by combined methods, the embarkation areas, loading and unloading

stations, and allocated transport means), start lines, regulating lines, timing of passage lines, and halt areas;
—organization of air defense.

In addition, the army commander specifies the organization of reconnaissance; the protection of troops from mass-destruction weapons; engineer, technical, and rear service support; radio-electronic warfare; operational *maskirovka*; measures to facilitate the continuation of unit movement by march, once debarked from rail transport means; interaction with *front* forces and allied armies operating in forward areas and supporting the army's march; and the organization of troop control.

When determining the army's march formation, the army commander should fully consider the following:

—composition of army large units (units);
—operational mission and likely form of deployment and commitment of large units into combat;
—state of combat and mobilizational readiness of the troops and the nature of their disposition at permanent military posts in peacetime;
—width of the march zone, the number of directions within the march zone, and their status;
—availability of transport and the requirements of high speed march and troop control;
—character of possible enemy actions against the communications' lines and army forces during the march.

When the army comprises four to five divisions, it will usually march in two formations. Field exercise experience indicates, that five to seven march routes are required for an army's march. Most importantly the army's march formation must be such that at the time of the army's commitment into combat, the first march formation should constitute the army's first echelon, while its second formation constitutes the second-echelon. The composition of the first-echelon depends on the conditions of march, the numbers of routes, and the character of future operations. When seven march routes are available within the army's march zone, three divisions will march in the army's first-echelon (each on two routes), with the army's supporting units

marching on one route. When there are five march routes within the army march zone, it is recommended that only two divisions should march in the army's first-echelon.

In the army's first formation also march the rocket brigade; the artillery brigade; the surface-to-air rocket and antiaircraft artillery regiments; the antitank regiment; engineer, chemical, and radio-technical units; and command posts and signal units. The army's engineer units are employed for supporting the march in accordance with a separate plan. The first-echelon should be capable of conducting combat operations independently until the concentration and arrival of the rest of the army's forces and means.

The army's second formation includes one or two divisions and rear service support units and installations. In specific cases, the rocket technical bases can directly follow rocket and surface-to-air units and large units. During the march the distance interval between the army's first and second-echelons can be 80-100 km, space sufficient for second-echelon maneuver, troop dispersion, and then timely commitment into combat.

The length of a march column of a division, moving on two routes, can be 80-100 km. Therefore, the length of the army's first-echelon columns may be 100-130 km. The total length of the army's march formation, when marching on seven routes, can be 300 km or more, and when the army is moving on five routes, its total length may increase up to 500-600 km. Prior to the commencement of combat actions, the length of march columns might be decreased.

When part of the army's forces cannot accomplish its mobilization by the time the march begins, it constitutes the army's second-echelon and follows the army's first-echelon after accomplishing its mobilization, which normally takes 24 hours. Therefore, the second-echelon will begin its march 24 hours later than the first-echelon. In such cases the total depth of army marching formation may reach 600-800 km. Sometimes a portion of the *front's* units or the Supreme High Command's (central) reserves march in the intervals between the army's first and second-echelons.

According to the manuals, the length of a motorized rifle division's march column, when it marches on three routes, can reach, 70-80 km (without security elements). The interval between vehicles marching in the column is 25 m; between regimental columns following each other, 10 km; and between battalions, five.

When contact with the enemy on land is not anticipated, it is recommended that march columns should be formed by grouping vehicles similar in terms of speed and cross-country maneuverability in the same columns. Tracked vehicles are grouped together in separate columns and march on a separate route. This ensures the desired speed of the march columns and economizes POL consumption. When contact with the enemy is anticipated, it is recommended that march columns be formed with attention to troop preparedness for rapid deployment into combat (engagement) and the independent execution of combat actions.

V. Planning the March of Army Forces

Planning the march of army forces is normally done in peacetime at General Staff Headquarters, where the army commander, the chief of staff, and a limited number of the army's staff officers participate.

The aim of the planning is to ensure organized movement of the troops in secrecy and their timely arrival in specific areas fully ready to accomplish combat missions in various situations and conditions.

Rapid changes in the situation at the beginning of war require that a number of additional considerations be incorporated into the planning process. When determining the time and speed of the units' march, the most difficult situational circumstances are kept in mind. The most favorable conditions must be provided for the march of rocket units, air defense troops, the army's first-echelon large units, and troop control means. Measures must be taken to ensure the maximum independence and self sufficiency of units and large units, their constant preparedness to deploy from the march into combat, and effective troop

combat action should the use of chemical or nuclear weapons result in large areas of devastated and contaminated terrain.

In the process of more effectively planning of the march, a clear understanding and evaluation of the following are of prime importance: start [see Glossary entry for *iskhodnyi rubezh* and *raion sbora*] areas, march routes, railroads, embarkation and debarkation areas, temporary reembarkation areas, crossing sites at water obstacles, mountain passes and crossings, rest areas, areas for the establishment of depots, and the possibilities of using permanent signal communication lines and local facilities within the march zone of the combined arms army.

The plan of march anticipates the method of march by organic transportation vehicles depending on the distance of units from specific areas to be moved to, combined forms of march, and movement of troops by different types of transportation means.

The plan of march should conform to and meet the real conditions of the situation. Therefore, the plan is constantly reviewed and updated. It should be flexible to ensure rapid changes and alterations of the method of march, time of march, and supporting measures, etc. The plan is usually prepared and depicted on a 1:500,000 or 1:200,000 map with written details and calculations. In addition, a political preparation plan, commandant's service plan, air defense plan, and plans for the employment of the army's supporting arms and services, based on the army's general plan, are also prepared.

The following are depicted on the map:

—enemy groupings of forces and likely areas of contact with the enemy;
—Grouping and disposition of friendly forces in start areas, final assembly areas, and their possible future missions;
—march formation and routes of divisions, the rocket brigade, and separate army units;
—sequence and times for beginning the march, passing the start and regulatory lines, arrival time in resting areas, and in final assembly areas;
—air defense organization;

—measures concerning reconnaissance, protection of troops from mass-destruction weapons, engineer, rear service, and other types of support;
—organization of troop control.

Units that are moving by railroad, water transportation, and air transport are assigned the following: staging areas prior to embarkation; debarkation points and assembly areas; a number of allocated transportation means; the sequence, methods and timings of embarkation, travel, and debarkation; and special requirements to ensure troop control during their embarkation, during travel and debarkation, and at the end of movement.

In the written part of the plan, the following are specified: the aim, concept, length and duration of the march; the width of the march zone, the average distance of daily march, average rate of speed, calculations concerning the army's march and the allocation of various transport vehicles, support measures, commandant's service, troop control, and other matters not depicted on the map.

When planning the march at a time when the employment of nuclear weapons is anticipated by the opposing side, consideration must be given to the necessary delays caused by the need to eliminate the impact and consequences of possible enemy nuclear strikes during the conduct of the march. For this reason, allotting extra time for the march during the planning stage is recommended.

When planning a combined method march, the army staff must pay special attention to coordinating the transportation of heavy equipment by railroad with the movement of units traveling in organic vehicles in march formation. This will ensure the rapid assembly of units, particularly at the final stage of daily march, will enable them to reestablish unit form, and will ensure their organized deployment and commitment into combat. Officers in charge of railroad transportation must have a thorough knowledge of the timing and movement routes of units and large units by railroad, their rest areas, locations of POL depots, and other matters concerning the movement of troops up to their final destination and final assembly areas. The march routes of units traveling in organic vehicles in march columns

should be close to the railroads, when their heavy equipment are transported by trains. Railroad transportation should be planned to allow shorter intervals between the movement of first and following echelons.

Based on the army commander's decision, the army staff prepares a plan of march, operation order, and instructions for support measures. It also issues these documents to the units, exercises control and extends assistance to troops carrying out the issued instructions, organizes actions by the commandant's service, reconnaissance, and troop control. The army staff supervises the timely movement of the units and their timely arrival at the march start line.

On receiving the order to bring units to a higher level of combat readiness, the army takes a series of measures in accord with previously specified plans. The army staff reviews and adjusts the plan of march and the missions of the units. Materiel and technical support of the troops are carried out. Reconnaissance of the march zone and, if required, an additional check of engineer constructions within the march sector are organized. Moreover, command posts deploy, signal communications and commandant's services are established, and finally measures are taken to improve the operational situation of units and large units. All these actions are initiated only with permission of the army commander.

On receiving the order to march, the army forces are brought to the level of full combat readiness, and the mobilization process is undertaken. The units and large units move to start areas, the march plan is reviewed and adjusted, and the units and large units are assigned missions (or their already assigned tasks are confirmed and adjusted). In addition the headquarters staffs move to command posts; troop control and all types of support are organized in behalf of the oncoming march; actions are taken to embark the troops on railroad (water, air) transportation means; the commandant's service is established in the start area; and strict control is exercised to ensure the accomplishment of tasks in terms of their timing and content.

The air defense of army forces on long marches is organized to protect the fire and strike capabilities of the units and large

units, and to facilitate their arrival in specified areas and the effective accomplishment of their combat actions.

Air defense of moving formations is provided by air defense units and means in close coordination with National Air Defense Forces and *front* and allied air defense means deployed in the march zone of the army.

In his decision, the army commander specifies the following, concerning air defense:

—which army groupings at what stages must be covered in first priority;
—composition and groupings of the army's air defense units and the method of their cooperation with National Air Defense Forces; control of army air defense units and means in the start areas, during the march, and while repelling enemy air attacks;
—march routes of army air defense units, their position in march columns, and the method of their deployment for repelling enemy air attacks;

The air defense plan is prepared on a map, with written details and calculations depicting the following:

—conclusions of the assessment, [estimate of the situation] regarding enemy aviation;
—march sectors of army units, the timing, start areas, embarkation and debarkation areas, rest areas, staging areas and unit concentrations; the most vital and critical objectives requiring effective air defense (units, rear service installations, crossing sites, mountain passes and accesses, communications centers, etc.).
—composition and grouping of the National Air Defense Forces, *front* and allied air defense means deployed within the march zone, and the method of cooperation with them;
—composition, capabilities, and grouping of army air defense units and their method of relocation to the entire depth of the march;
—organization of surface-to-air rocket and antiaircraft artillery actions, covering operations by fighter aircraft, the

method of radar reconnaissance, and the method of their control;

—method of designating air targets by number when army formations are passing through National Air Defense Force large units and front and allied air defense forces;

—method of warning of marching units;

—availability, supply, and distribution of air defense rockets and antiaircraft artillery rounds.

The army's air defense grouping is established on the basis of the commander's decision regarding the army's march formations. Air defense should cover the army's main grouping (first-echelon forces, the rocket brigade, the rocket technical base, command posts, and important rear service installations) against enemy air attacks.

The distribution of air defense units and large units along march routes and within march columns should ensure reliable cover of army units during their march and favor the deployment of air defense combat formations in the shortest possible time. It should also provide favorable conditions for the establishment of proper reconnaissance and fire systems in halts, in rest areas, and in the final staging areas.

The army's surface-to-air rocket regiment usually marches on a number of routes following the advance guard or at the head of the main body of the army's march columns. The antiaircraft artillery regiment covers the army's command post. Divisional antiaircraft artillery regiments move in the march columns of division units.

Regimental antiaircraft batteries normally move in platoons (or pairs) in the advance guard column and the main body of the regiments.

Some surface-to-air rocket and antiaircraft artillery units and subunits may deploy in advance at communications centers, river crossings, and mountain passes and approaches to cover the march column as it passes through such areas.

At daily rest areas and during halts, surface-to-air rocket and antiaircraft artillery regiments deploy in combat formation and take up positions close to the march routes of army units.

Basic radar reconnaissance [surveillance] of enemy aircraft and the warning system for enemy aircraft flights in the army's march zone is provided by radar units of National Air Defense Forces and air defense forces allied nations, as well as by the radar units of forces operating in advance of the army.

The air defense radio-technical battalion usually moves on the army's march route following the army command post. At the daily rest areas, as well as in assembly areas, one or two radio-technical companies deploy as concealed air reconnaissance posts and are kept in constant readiness to detect enemy aircraft.

In order to receive information about enemy aircraft, special radio receiver sets in the divisional air defense control center and air defense unit command posts operate on the radio warning nets of National Air Defense Forces, *front*, and allied nations. In large units, units, subunits, and march columns, the enemy aircraft warning system is established by visual, sound, and light signals.

Support Measures

March support measures include reconnaissance; protection of units from mass destruction weapons; operational *maskirovka*; radio-electronic warfare; and engineer, chemical, topogeodesic, hydrometeorology and rear service support. The principal measures concerning the support of the army's march are taken by the General Staff, military district commands (*fronts*), and allied armies. Only in exceptional cases are the forces and means of the army employed for such purposes, since the actual use of army elements is anticipated when they are deploying for combat, where they carry out their principal tasks. However, the army commander should always be ready to support the march of army forces by means directly at his disposal.

Reconnaissance

Reconnaissance is conducted in order to provide timely information about the enemy, the radiological, chemical, and biological situation, the status and conditions of march directions

routes, river crossing, mountain passes, and routes bypassing such obstacles.

Reconnaissance must disclose in a timely manner the areas and composition of enemy airborne assault and diversionary landings and should provide friendly forces with detailed information about the enemy when they are deploying for combat.

The reconnaissance of routes, river crossings mountain passes, and rest and staging areas is conducted by units and large units through the dispatch of multipurpose reconnaissance groups.

In order to get reconnaissance information from units operating in forward areas, it is recommended that liaison officers be detached from army headquarters to the headquarters of forward forces.

Protection of troops from weapons of mass-destruction and burning substances (incendiary and flame means) is organized to maintain the combat capabilities of units during the march and to ensure their safe commitment into combat.

Such protection is provided by the following:

—strict observation of specified distances between march elements and troop dispersion during the march, as well as in rest and staging areas;
—maximum use of protection capabilities of combat and transport vehicles and terrain features;
—detailed organization and forecasting of the radioactive situation and timely warning of the troops;
—continuous radiation, chemical, and biological reconnaissance;
—expedient and proper use of protective equipment and selection of the best methods for passage through contaminated areas;
—organization of control over the radioactive exposure of personnel and combat vehicles and equipment;
—eliminating the consequences of the employment of mass destruction weapons by the enemy.

Army chemical defense units are usually centrally employed. They move in march columns in formations that allow them to

be constantly prepared for actions to restore the combat capabilities of units and to eliminate the consequences of enemy nuclear attack.

In halts, as well as in rest areas, covered positions and shelters are constructed for personnel and combat vehicles and equipment.

Operational *maskirovka* is conducted on the basis of the general staff plan to conceal the march and deceive the enemy about the real aim of the march, as well as the composition, direction, specification, and the scale of the marches.

March concealment of army forces is ensured by the following:

—concealing embarkation, debarkation, rest, and staging areas from the enemy;

—deceptively stationing units, command posts and other important targets in former assembly areas [areas the units have already left] and constituting deceptive areas of unit concentration;

—conducting deceptive marches on deceptive routes to confuse the enemy;

—assigning as many march routes and railroads as possible to large units and operational formations;

—maintaining the secrecy of the aim and routes of march by isolating unit personnel from the local population; active counterintelligence in the march zone; issuing orders for only one day at a time to a limited number of persons; marching at night; and selecting rest areas outside built-up areas.

—dispersing units in halts, in rest and staging areas, and properly concealing them;

—establishing strict control over march discipline and concealment in embarkation, debarkation, rest, and staging areas by the units themselves;

—undertaking radar deceptive measures; transmitting information on various channels to the enemy; wide employment of radio and radar *maskirovka*; and preventing enemy radio-electronic reconnaissance.

A number of the army's special units can be detached to take measures in accord with the General Staff operational reconnaissance plan.

There are many positive examples of concealed movement of forces over long distances, conducted by operational formation during the Second World War. The actions that led to the concentration of offensive groupings at Stalingrad, and the offensive operation in Belorussia may be mentioned as such examples.

Engineer Support

Engineer support of the march includes route and terrain reconnaissance in the zone of march; preparation of routes and passages through obstacles, barriers, and mountain passes; preparation of engineer works in start areas, embarkation areas, rest areas, and staging areas; and effecting *maskirovka* measures and actions.

Rear Service Support

Rear service support of army forces on long distance marches is conducted under difficult constraints characterized by the following:

—Sometimes, at the beginning of a march, all of the army's rear service units and installations are unable to deploy at once, and those that actually can deploy do not possess sufficient materiel reserves and are not specifically prepared;
—there are large materiel support requirements for the march;
—as a result of enemy actions, primarily the employment of nuclear weapons against friendly forces and targets in march sectors, the capabilities of rapid replenishment and transportation of materiel reserves become more limited.

Rear services support of army elements on the march requires combined actions by rear service organizations at the national level, military district (*front*) rear service units and installations, as well as the marching army's rear services. Therefore, the

army's rear service means should be used only in exceptional situations, and its exhausted materiel reserves must be replenished immediately.

The army's rear services elements, along with materiel reserves, are usually spread over a number of routes following the army's second-echelon forces. They must be constantly prepared to support the deployment of army units and their commitment into engagements. A part of the rear service units and means must follow the army's first-echelon columns or move in the march columns of first-echelon units.

Rocket technical support is planned and conducted in such a way as to meet the requirements of providing the army rocket forces with the highest level of combat readiness. When the rocket carriers are at technical readiness level No. 6 and the combat units are in level No. 4, five hours are required, on average, for the rocket technical base to prepare a rocket for each launching pad. [Technical readiness categories are different from operational readiness categories. The six technical categories generally are steps facilitating the movement, technical preparation of the rocket, mounting the rocket on the launcher, and elevating the launcher, etc.]

Depending on specific conditions of the situation, transporting rockets to rocket units is effected prior to the march, during the march, or by the time the army arrives in final staging areas at the end of the march;

Supply of the units with POL during the long distance march is one of the most important and more difficult tasks in rear service support. For instance, in a march of 1,500-1,700 km the army requires 5.5-6.0 refills of gasoline and 8.5-9.5 refills of diesel fuel (the total weight of one army refill is 3,500-5,000 tons) or a total of 26,000-37,000 tons of POL.

Since the total capacity of the army's materiel transport units is about 6,000-7,000 tons of POL, fuel consumption requirements during the march must be met by additional mobile POL stores through the establishment of POL depots in the march zone prior to the commencement of march by the army. For this purpose, on the basis of General Staff orders, a designated POL depot is constituted in each stage of daily march so that, during

the march, army transportation means and those of army units can supply/replenish army elements with POL, in their daily rest areas from such POL depots.

To provide rapid replenishment of marching vehicles with POL during the march, army transportation units carrying POL reserves move immediately behind the divisions' march columns once the march is begun. At the same time, it is recommended that transport units of large units and units carrying POL reserves should be divided into separate elements moving in the march columns of regiments, and in the case of tank units, moving in march columns of tank battalions.

This method makes it possible to replenish regimental vehicles in four to six hours and to replenish divisional vehicles in six to eight hours. After replenishing vehicles with POL, the empty POL transport vehicles move to the POL depots established by higher echelons in each stage of daily march to replenish themselves again and transport POL to the units at their daily rest areas.

By employing such methods, the time spent to supply or replenish vehicles with POL is dependent on the effective organization of the process and the degrees of mechanization employed in the replenishment process.

Technical Support

Technical support of the march is undertaken to maintain tracked and wheeled vehicles at the highest level of readiness during the march, during the commitment of army units to an engagement, as well as in course of all stages of the army's succeeding offensive operation (which may follow the march).

The most important task of technical support is the recovery and repair of disabled vehicles. The experience of field exercises indicates that during the march 1 to 2 percent of tracked and wheeled vehicles or more are disabled in each day. A number of such vehicles can be repaired by divisional and regimental repair elements (generally current repair) in halts and daily rest areas, but vehicles requiring more time to repair are evacuated to a damaged vehicle collection point and then transferred to the repair center of the military district (front).

In order to maintain the established coefficient of high technical preparation, timely technical preventive maintenance in halts and rest areas is of prime importance. Repair and evacuation groups are established and detached to march columns to provide assistance to drivers and crews in repairing damaged vehicles, for their recovery and evacuation, their replenishment with POL, and also to provide medical aid to personnel. Such repair and evacuation groups are composed of repair elements, repair and evacuation vehicles, medical personnel, vehicles loaded with spare parts for tracked and wheeled vehicles, and tools and POL reserves. The inclusion of reserve drivers in such groups is recommended.

Troop Control

The basic task of troop control is to ensure the planned and organized movement of the troops in order to concentrate them on time in specified areas, at full combat readiness.

Control of army forces is organized and exercised on the basis of general principles, from the following points: main command post, forward command post, and rear command post.

In the phase of notifying units by combat alert and moving them to staging (mobilization) areas, as well as in march start areas, the army commander exercises control from the military posts [permanent garrisons] of units. As signal communications are established in a new [main] command post in the staging areas, the army commander moves to that place and resumes control of the units until the commencement of march. In course of the march, depending on the situation, the army commander may be in the [main] command post or the forward command post.

By the commencement of the march, the army's forward command post moves at the head of marching column and may move ahead of the column up to one day's march distance, while the army's main command post remains in the march staging area. Once the main command post moves to the area which the forward command post had reached earlier and

assumes control from its new location, the forward command post leapfrogs forward a distance of one day's march.

An alternate method for command post location during the march is as follows: the army's forward command post moves at the head of the first-echelon column throughout the march, while the army's main command post moves in the army's second-echelon, always maintaining one day's march distance from the forward command post.

The experience of field exercises shows that the best method of moving the command post is as follows: the army's main command post moves simultaneously with other troops, on a separate route, parallel to the army's first-echelon columns. The army's forward command post is established in this phase in the army's next daily rest area, and its communications means are deployed there. When the army's main command post reaches that rest area and assumes control, the forward command post moves to the army's next daily rest area. The advantage of this method lies in the fact that one of the command posts is always deployed and exercises control of army units, while its entire communications net and means are deployed and operating.

The army's rear command post, under all conditions, follows the army's second-echelon columns and deploys in successive specified areas. All the army's troop control elements—main command post, forward command post, and rear command post—are deployed in the march assembly area.

At the beginning of the march, when units are passing the start line, army and divisional forward command posts deploy in planned areas specified for the units' daily rests.

When army forces are being committed to an engagement, as well as when the units are passing the march start line of the final rest area, army and first-echelon divisional command posts should deploy on the line where the units are committed into the engagement under cover of forward detachments, and should assume control of units from there. In this case the command posts of second-echelon divisions move at the heads of their divisional main body columns.

In order to ensure reliable troop control, auxiliary command posts or additional forward command posts or control groups

can be deployed in the army's march zone by the decision of the General Staff.

For timely dislocation of command posts, it is recommended that in addition to the allocation of separate routes for the movement of command posts, helicopters should be widely employed for moving them and for establishing airborne command posts. This will enable army (division) commanders to rapidly move with a group of staff officers from one place to another and to control the troop movement, as well as to actively collect information about the situation and assign missions to subordinate units.

In order to ensure continuous troop control during the march, it is ideal to establish a wide signal communications system by employing State communications channels and mobile communications means. It is important that transmission by shortwave radios not be allowed during the march. Only in exceptional cases can the ultrashortwave radio sets be employed for transmitting warning signals, controlling of air defense units, and transmitting short command signals.

Communication and contact with troops transported by railroads is made through General Staff and *front* (military district) military communications organizations.

When marching on the territories of friendly countries, the army commander and staff establish and organize coordination with armies of such countries. Ideally, coordination of important matters concerning interaction with allied armies should be done well in advance as should the adjustment of the coordination arrangements with the most up-to-date ground reconnaissance and terrain studies. This process of ground reconnaissance review and allied march route coordination should be finished by the time the signal to commence the march is received. In this context, the army staff should coordinate the following matters by the beginning of the march:

—main and alternative march routes; routes bypassing major cities and industrial areas (or methods of passing units through them); methods of crossing rivers and mountain passes, and organization of commandant's service actions in such areas;

—organization of air defense;
—support of movement; the method of collecting information about enemy nuclear strikes and removing the obstacles and destruction on the march routes; POL, food, and other materiel support areas and the method of supplying the units from such areas; the method of evacuating wounded and the sick to local medical institutions; the possibilities of taking advantage of local repair facilities; and the recovery and repair of damaged vehicles;
—method of exploiting local signal communications means and facilities for organizing the control of army units during the march; the specifications of signals and call signs, for on-call units in signal communications centers; ensuring the operation of mobile communications means, particularly helicopter and signal aircraft.

The commandant's service plays a vital role in actions to ensure the organized march of the troops and to facilitate effective control. The commandant's service carries out the following tasks: traffic control on the march routes; control of observation of concealment regulations by the troops; providing security for key objectives on the routes; taking actions against enemy diversionary-reconnaissance groups, etc. The provost and traffic control service is organized centrally by General Staff Headquarters, even when the army conducts the march independent of army headquarters. To support the commandant's service, special military police and highway control units, and units from the marching forces (if necessary), are employed.

Depending on the availability of forces and means, the commandant's service is established prior to the beginning of the march and moves forward by successive leapfrogging during the march by daily stages. The commandant's service is established on the routes developed by the army units, in the march start area, on march routes, in rest and assembly areas, and, in case of commitment into combat, on deployment routes of divisions assuming combat formations.

A number of commandant's service zones are established in the march sector of the combined arms army:

—on march routes by the *front* (military district) that the army is attached to
—in the final staging area by *front* troops operating in forward areas, as well as by army troops.

The whole length of the march sector is divided into commandant's service zones on the basis of the daily march stages. Each zone is placed under the command and supervision of a specified commandant's service chief, and movement regulation units are assigned under his command to carry out the tasks regarding traffic and regulatory service within each of the particular zones. Each zone is further divided into sections, each 100 km or more long. (One commandant's service zone may conform with one daily stage of march; each zone may consist of a number of commandant's service sections, each being 100 or more km long. The chiefs of all sections in a zone are subordinate to the chief of commandant's service zone.)

VI. The Army's Conduct of March

The army may march under varying conditions and circumstances. Therefore, the methods of troop actions and measures, as well as command and staff procedures, will be different in each case.

In marches conducted prior to the outbreak of war in a period of threat, army forces, after being brought up to a level of full combat readiness will immediately move to specified assembly areas, and then board trains (ships, aircraft) at specified times. In case of moving by march, the army establishes proper march formations and moves to the start line on specified routes.

When marching under circumstances of a newly initiated conventional war, one of the primary tasks of the army commander and staff will be the organization of a responsive air defense system and its constant activity in troop start areas, embarkation areas, in course of the march, in daily rest areas and in debarkation areas. The most difficult conditions for the army's march will be encountered when it is conducted under conditions of a war initiated with the employment of nuclear weapons. Under such circumstances, army forces will be under permanent threat

of enemy nuclear and chemical attacks, particularly when they are in the collection areas for march, or in assembly areas which they occupy on combat alert, or when they are still located at military posts. In such cases enemy nuclear attacks may cause such fundamental changes that a wide series of alterations and adjustments may be required in the plans of march. The most important tasks of the army commander and staff under such circumstances will be:

—rapidly collecting and analyzing all situational information;
—moving troops from their permanent garrison in a rapid and timely manner, bringing them up to full combat strength, and ensuring their preparation to march in the most complex and difficult situation;
—adjusting the plan of march in accord with the newly created situation and allocating tasks to the subordinate units;
—eliminating the consequences of enemy nuclear strikes;
—conducting reconnaissance of march routes, repairing and restoring routes, and improvement and construction of march routes.

Special attention must be paid to the restoration of disrupted troop control and the combat capabilities of rocket forces and first- and second-echelon divisions, so that these large units may begin marching on time.

Attempts must be made to overcome the consequences of enemy nuclear strikes in the shortest possible time, primarily those consequences that have affected army units hit by enemy nuclear strikes. Complete medical treatment and decontamination of the troops is normally done after they reach assembly areas.

When adjusting the plan of march to meet the requirements of the situation, the army commander considers the status of units and large units, approaches to the staging areas, the nature of destruction caused by enemy strikes, and the character of terrain contamination in the army's march zone. On the basis of these factors and conditions, march formations, rest and assembly areas, march routes and other elements can be changed or

reoriented. Modified tasks (or new tasks) are assigned to those first echelon units that start the march prior to others.

On receiving the signal to march, the troops start marching in such a way as to ensure the organized formation of march columns. They are guided to their assigned routes and pass through the march start lines in a timely manner. The army staff exercises control over the alignment of the troops in march formation, their timely passage through the march start lines, and the method of guiding the troops to their assigned routes of march. Such control can be exercised in different ways: the dispatch of staff officers to the start lines, observation from helicopters, and receiving reports from subordinate commanders and their staffs.

During the march the troops may have to cross water obstacles or bypass destroyed and contaminated areas, water obstacles, and mountain barriers. When troop passage through contaminated areas becomes necessary, the troops preferably pass through the areas where the contamination is the lowest.

Passage through destroyed and contaminated areas located along crossings over water obstacles is conducted from the march through crossing areas established by allied countries (when marching across their territories) and *front* units, or over crossings established by the army itself, employing bridge construction means on the river, stockpiled well in advance by higher echelons.

If crossing rivers is not feasible from the march, it is recommended that the troops stop at a distance of 30-40 km from the river and, after necessary preparation, move to the water obstacle. In this case, river crossing equipment should be moved in advance to the river, additional reconnaissance must be conducted, fording sites and underwater crossings for tanks should be established, and passages toward the river should be constructed to ensure rapid crossing by the troops.

Serious difficulties in the course of the march are caused by mass destruction of ground objectives on march routes, which may require drastic changes in march methods and formations by army troops. In case of serious disruption of the planned movement by railroad, the army commander and staff, in

accordance with the instruction of the *front* commander, direct the columns to bypass the destroyed areas, specify new embarkation or debarkation areas as part of modifications of planned rail movement, and organize the march of debarked units to the final staging area by their own transport means.

The army's air defense units move so as constantly to protect the main grouping of army forces against enemy air attacks. In the event of enemy air attack on the march columns, the march columns normally continue their march. In this case the air defense means of the units and large units destroy the enemy aircraft by fire from the march or from brief stops. The surface-to-air rocket batteries usually deploy along the march routes and, after repelling enemy air attacks, resume their march.

Enemy reconnaissance and diversionary groups, as well as enemy air assault landing units, are destroyed by reconnaissance and march security units, commandant's service detachments, as well as by units and subunits specifically assigned to such tasks. To destroy large enemy air assault landing units, friendly units located close to their landing area are employed.

Such a situation should also be expected when changes become necessary in time and place of assembly, the lines of commitment of units into combat, and the combat mission of the army. The army commander, during march planning, anticipates such possibilities and the methods of action that may become necessary. In such cases, the final decision is made by the commander during the march, based on the army's mission and the operational situation. Therefore, in planning the army's march over long distances, the final stage of daily marches must be specified in close consideration of ensuring combat preparedness of army units to be committed into combat directly from marching columns. The length of the army's final stage of daily march, as well the march formation must ensure the following: establishment of a strong strike grouping of army units; rapid deployment and simultaneous commitment of army forces and means strong enough to constitute local superiority over the enemy along the specified directions of the army's main attack; the possibility of army participating in the *front's* initial nuclear strike; and, favorable conditions for the timely and effective employment of the army's second-echelon and reserve forces.

To achieve the aforementioned purpose, tank divisions, tank regiments, and motorized rifle regiments mounted on infantry fighting vehicles should move as part of the main body in the first-echelon of the army's march formation, while rocket and artillery units should march with the advance guard and at the head of the main forces' column. Thus, they may be able to immediately attack the enemy prior to and during the deployment of the army's main forces into combat formation from march columns.

The length of the final stage of the daily march and the depth of the army's march formation also affect the organization and conduct of the commitment of the army into an engagement from the march. Therefore, the last stage of daily march is planned in such a way as to allow the march of the army's units, on their organic combat vehicles, over nine to ten routes each 120-150 km in depth. Along these routes the depth of first-echelon forces' columns should be up to 60 km, and the depth of first-echelon divisions' columns 40 to 50 km. This can be achieved by allocating three to four march routes to each first-echelon division and two to three marching routes for separate army units, as well as by deployment of the troops from march columns into pre-combat and combat formations in the shortest possible time. In such a case, the total depth of the army's march formation will be 175-300 km.

The army commander and staff, on receiving instructions to march, concentrate their efforts on carrying out tasks concerning the rapid and organized accomplishment of all actions and measures planned to bring the troops up to a level of full combat readiness and to prepare them for a long distance march. In this phase the basic tasks of troop control are:

—alerting the troops by combat (mobilization) alarm;
—moving the troops to march starting areas or embarkation areas;
—transporting materiel reserves;
—bringing units up to strength and their temporary deployment until they are fully mobilized at specified times;
—adjusting the army's march plan and issuing missions to units;

—organization of direct practical-physical preparation of the troops for long distance march and providing them with all types of support;
—establishment of grouping in march start area;
—control and inspection of troop preparedness, the formation of march columns on each march route, and conduct of the passage of the troops through the march start line.

During the march, the army commander and staff continuously control units and in a timely manner readjust and update their assigned missions in each successive stage of daily march according to the situation. Therefore, the army staff, at the end of each stage of the daily march, must collect information about the situation and the status of friendly forces, in the shortest possible time, and report it to the army commander to enable him to make a proper decision and to issue orders to units for the continuation of the march on next day. The army staff must, on a continuous basis, maintain previously planned coordination with allied countries' headquarters about march support measures.

To ensure the timely deployment of army forces, at the final and earlier stages of the daily march, reconnaissance forces and means, air defense means, commandant's service detachments, command posts and means, rocket and artillery units and, if the situation requires forward detachments comprising a motorized rifle regiment from each first-echelon division, are detached in advance.

As army forces proceed to specified assembly areas, the army commander will have to readjust (or make) a decision for the future operation on the basis of the army's assigned mission.

The army staff, at this phase, organizes the collection of information about the situation from *front* headquarters and unit headquarters operating in forward areas. The army staff also takes necessary actions to replenish the materiel reserves consumed. It also takes actions to insure that first-echelon divisions have sufficient time for personnel preparation, replenishment of combat vehicles with POL, maintenance of vehicles, and organization for future operations. The army staff, along with the

army's chief for political affairs, conduct a series of regulatory and organizational actions in the units.

VII. Conclusions

In the preceding pages only the main principles concerning the preparation and conduct of an army long distance march have been discussed. The following conclusions can be derived from that discussion:

—an army march over long distances to the combat action area, may be conducted in various situations, under different conditions. The most challenging of these will be the march and its planning when the enemy preemptively initiates hostilities by conducting nuclear strikes;

—the combined arms army can move independently over great distances by employing different types of movement and transportation means;

—the selection of forms of movement is dependent upon movement conditions, likely enemy actions, status of, and traffic flow on, communications lines, and availability and capacity of transportation means. In a nuclear war, one of the important methods of movement of troops is the march;

—The march formation of an army is dependent on the form of movement, composition of army forces, and preparation of the march zone;

—The march formation of an army in a long distance march should provide the following:

  —most effective employment of march capabilities of troops and combat vehicles;
  —possibility of repelling enemy air attacks;
  —destruction of enemy air assault landing units and diversionary groups in the march zone;
  —passing natural barriers, contaminated areas and destruction on the march route;
  —commitment into combat from the march and movement columns.

—the army's march formation is usually in two echelons. The first-echelon comprises the main part of the army's forces and means and is strong enough to constitute the army's strike force when the army is committed into combat;

—the army's air defense during the march is organized and conducted through coordination with the National Air Defense Forces, *front*, and the air defense means of allied countries through whose territory the march is conducted. The air defense system should provide for the protection of troops against enemy air attacks, in all phases of army's movement, and help maintain the combat readiness of army units;

—regardless of the forms of movement, the combined arms army in modern times should be constantly prepared in any phase of movement to conduct movement by march, relying on its organic combat vehicles, and be prepared, at any moment, to deploy into combat from the march. Therefore, in planning the march, in combined forms, it is necessary that troops' debarkation and assembly areas for units moving by different types of transportation means, along with further continuing of the movement from such areas in the form of march columns, should be anticipated;

—troop control of army forces in the course of the march must ensure planned and organized movement of the troops in order to get them assembled in specified areas, in full combat readiness, in a timely fashion, and in complete preparation to deploy into combat;

—successful accomplishment of an army long distance march under modern circumstances, requires not only proper selection of the method of movement and all types of supporting measures, but also necessitates organization on the part of commanders, staffs, and political organizations, as well as firm and continuous troop control.

Long distance marches require physical and moral strength by the troops, great preparation, and strong discipline. Therefore, in the system of combat preparation and combat and political

training of the troops, generals, and officers, and in operational training and staff exercises, considerable attention must be paid to the study of topics concerning movement and marches of the troops over long distances.

Only those units that are provided with practical knowledge and march experience, and are highly prepared to conduct marches over long distances, can successfully conduct marches under the most difficult conditions and constantly maintain their combat readiness during the march for commitment into combat from march columns.

THE PRINCIPAL NORMS FOR TROOP MOVEMENT BY MARCH

1. Factors for principal tracked and wheeled vehicles.

Type of Vehicle	*Speed of Movement (km/h)*			*Range on Roads (in Terms of Fuel)*
	Maximum	*Average Roads*	*Dirt*	
Medium Tank	50	33	27	440-500
Light Tank	44	35	25	260
BMP	70-85	50	25	500-600
APC	80	50	25	500-600
Trailer	40-55	25-30	15-20	250-300
Truck	60-90	50	25	500-650

Type of Vehicle	*Range (km)*	
	Engine Life	*In Terms of Track Life*
Medium Tank	6000-9000	3000
Light Tank	4500-7500	3000
BMP	—	2000
APC	—	—
Trailer	—	1500-2000
Truck	—	—

2. Speed of March Column and Daily Range.

Condition of Movement	*Speed (km/h)*	
	Day	*Night*
Motor Column:		
On roads	30-40	25-30
Dry dirt roads	20-25	18-20
Muddy dirt roads and in cities	10-15	8-10
Tanks and Assorted Column:		
On roads	20-30	15-20
Dry dirt roads	15-20	12-15
Muddy dirt roads and in cities	10-12	8-12

Condition of Movement	*Daily Range (Covered Distance)*	
	Number of March Hours	*KM*
Motor Column:		
On roads	10-12	250-350
Dry dirt roads	10-12	180-300
Muddy dirt roads and in cities	10-12	80-180
Tanks and Assorted Column:		
On roads	10-12	200-350
Dry dirt roads	10-12	120-240
Muddy dirt roads and in cities	10-12	80-140

Note: Remaining 12-14 hours are spent for the following:

1 — tech servicing	3-4 hours
2 — serving hot meal	1-1.5 hours
3 — forming column and concealment	1-1.5 hours
4 — move to start line	1-1.5 hours
5 — rest	4-8 hours

Appendix

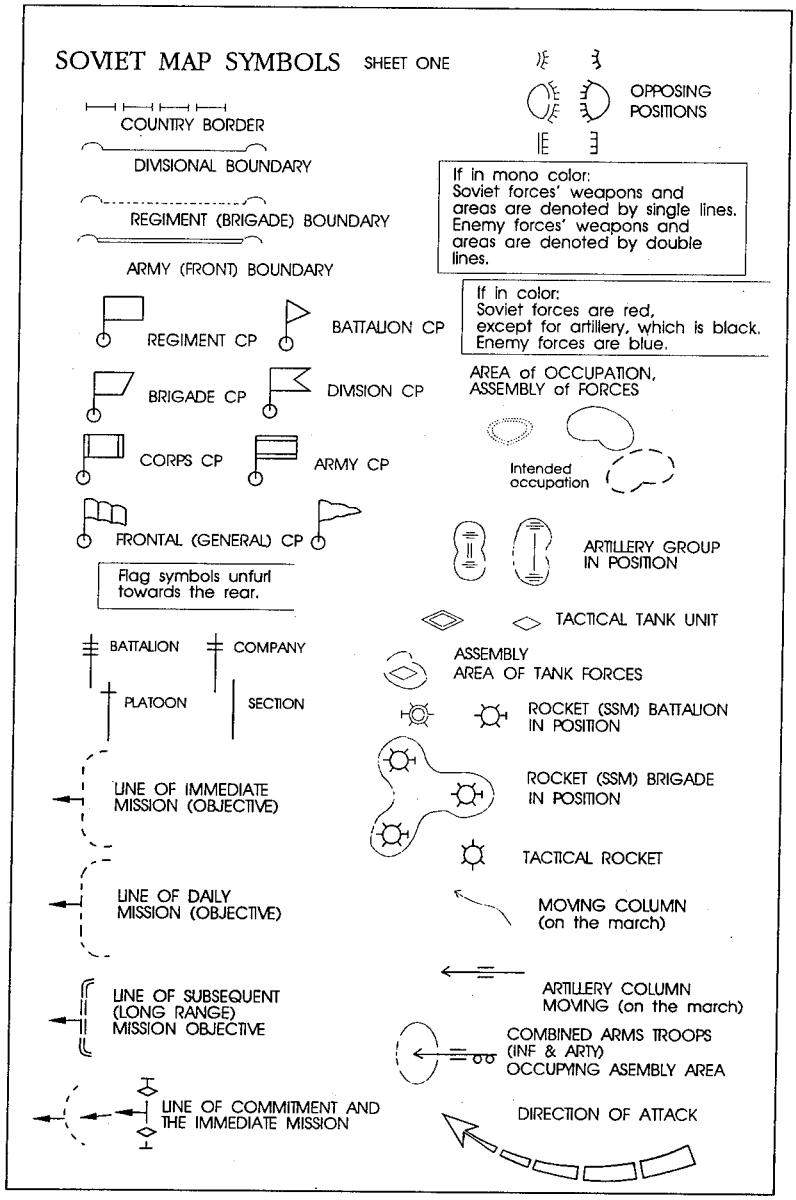

Figure A–1

Note: All figures constitute illustrative examples of combat actions which are based on, but not found in, the original lectures.

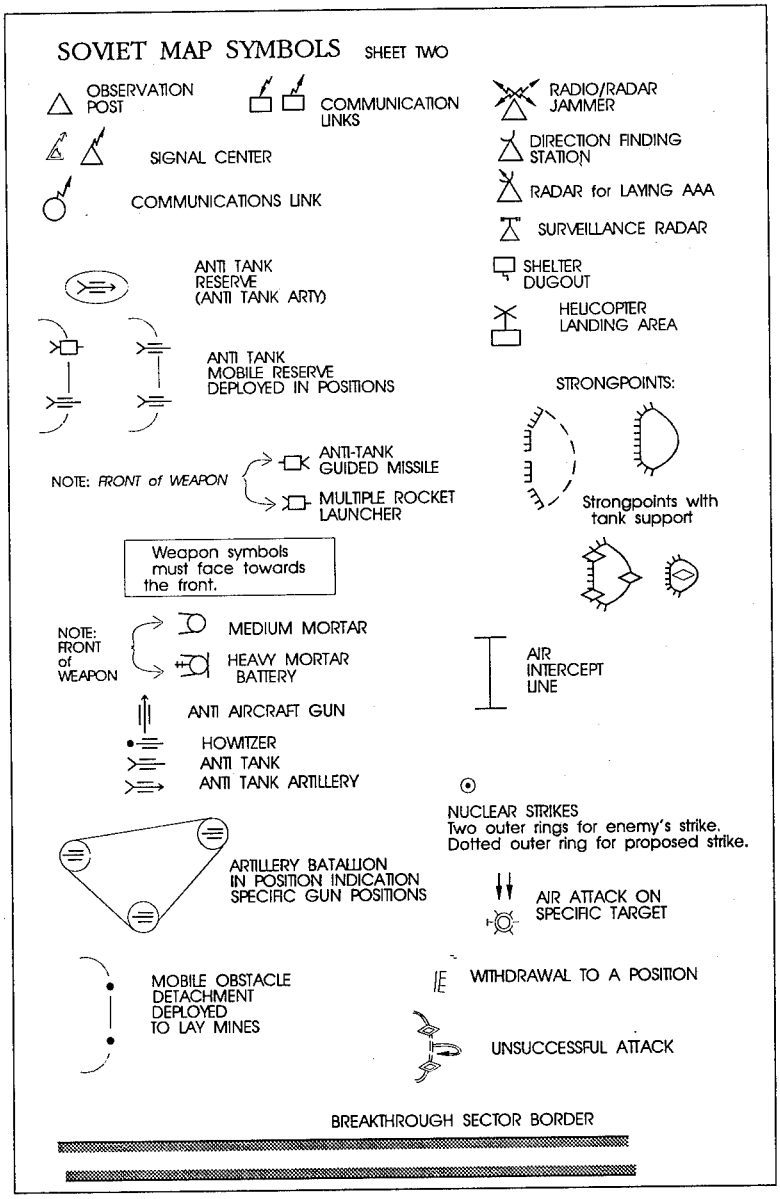
SOVIET MAP SYMBOLS SHEET TWO
OBSERVATION POST
COMMUNICATION LINKS
SIGNAL CENTER
COMMUNICATIONS LINK
RADIO/RADAR JAMMER
DIRECTION FINDING STATION
RADAR for LAYING AAA
SURVEILLANCE RADAR
SHELTER DUGOUT
HELICOPTER LANDING AREA
ANTI TANK RESERVE (ANTI TANK ARTY)
ANTI TANK MOBILE RESERVE DEPLOYED IN POSITIONS
STRONGPOINTS:
NOTE: FRONT of WEAPON
ANTI-TANK GUIDED MISSILE
MULTIPLE ROCKET LAUNCHER
Strongpoints with tank support
Weapon symbols must face towards the front.
NOTE: FRONT of WEAPON
MEDIUM MORTAR
HEAVY MORTAR BATTERY
AIR INTERCEPT LINE
ANTI AIRCRAFT GUN
HOWITZER
ANTI TANK
ANTI TANK ARTILLERY
NUCLEAR STRIKES
Two outer rings for enemy's strike.
Dotted outer ring for proposed strike.
ARTILLERY BATALLION IN POSITION INDICATION SPECIFIC GUN POSITIONS
AIR ATTACK ON SPECIFIC TARGET
MOBILE OBSTACLE DETACHMENT DEPLOYED TO LAY MINES
WITHDRAWAL TO A POSITION
UNSUCCESSFUL ATTACK
BREAKTHROUGH SECTOR BORDER

Figure A–2

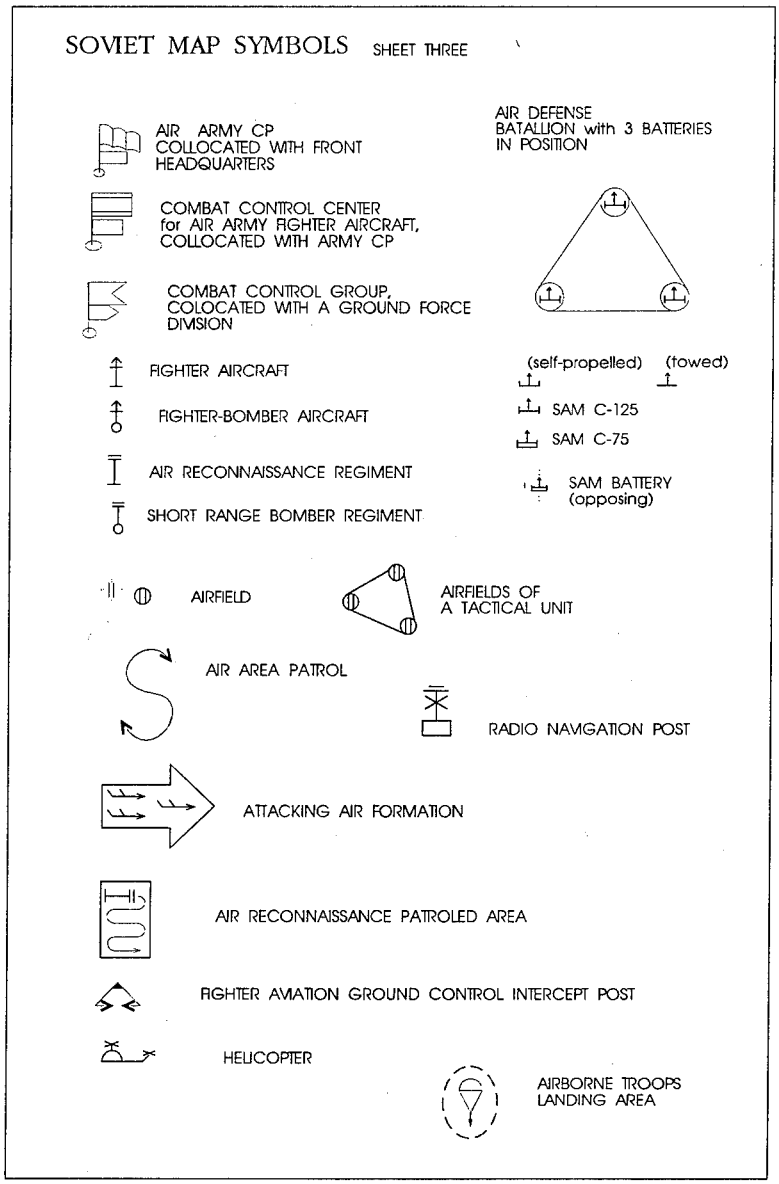
SOVIET MAP SYMBOLS SHEET THREE
AIR ARMY CP COLLOCATED WITH FRONT HEADQUARTERS
COMBAT CONTROL CENTER for AIR ARMY FIGHTER AIRCRAFT, COLLOCATED WITH ARMY CP
COMBAT CONTROL GROUP, COLOCATED WITH A GROUND FORCE DIVISION
FIGHTER AIRCRAFT
FIGHTER-BOMBER AIRCRAFT
AIR RECONNAISSANCE REGIMENT
SHORT RANGE BOMBER REGIMENT
AIRFIELD
AIRFIELDS OF A TACTICAL UNIT
AIR AREA PATROL
RADIO NAVIGATION POST
ATTACKING AIR FORMATION
AIR RECONNAISSANCE PATROLED AREA
FIGHTER AVIATION GROUND CONTROL INTERCEPT POST
HELICOPTER
AIRBORNE TROOPS LANDING AREA
AIR DEFENSE BATALLION with 3 BATTERIES IN POSITION
(self-propelled)
(towed)
SAM C-125
SAM C-75
SAM BATTERY (opposing)

Figure A–3

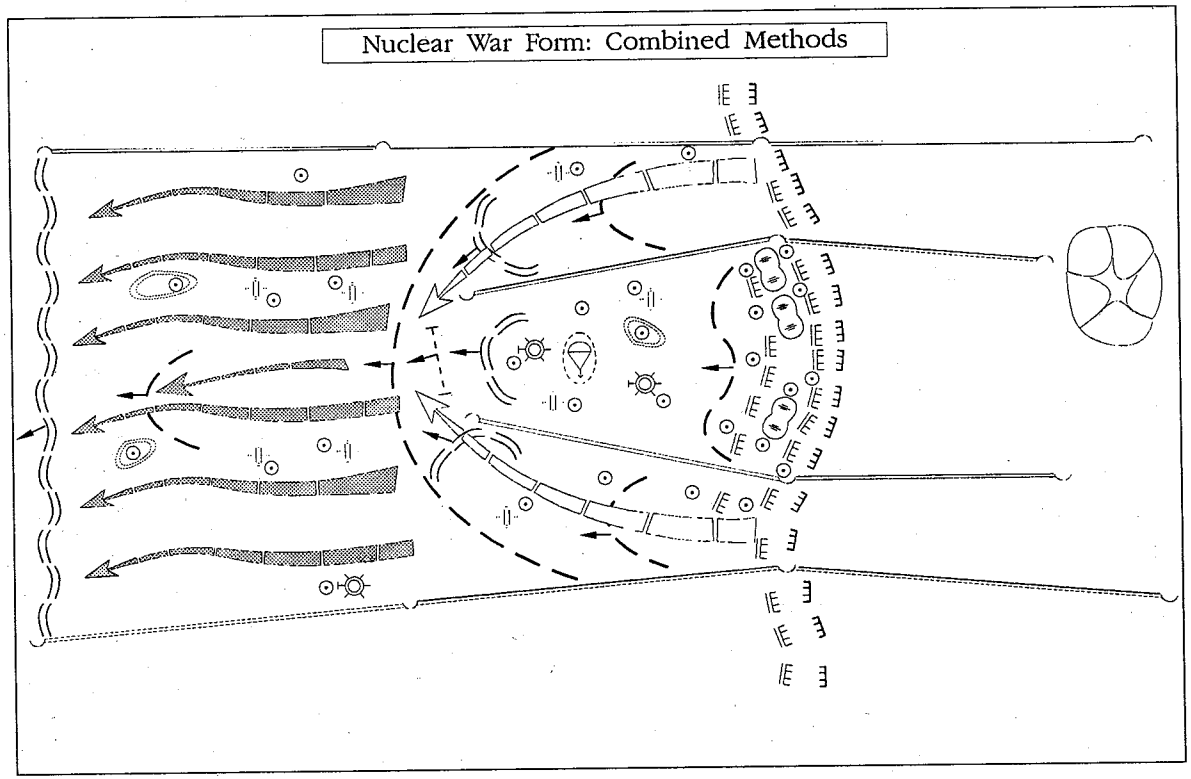

Figure A–4. *Front* Offensive

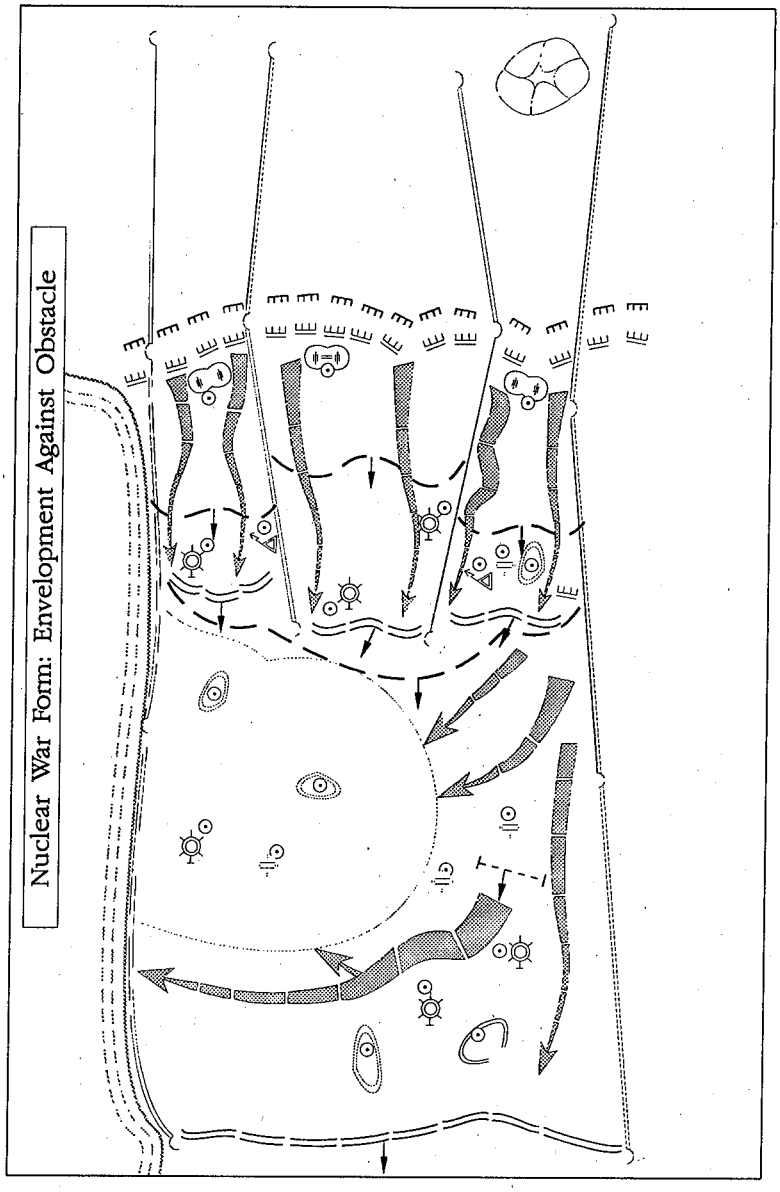

Figure A–5. ***Front*** **Offensive**

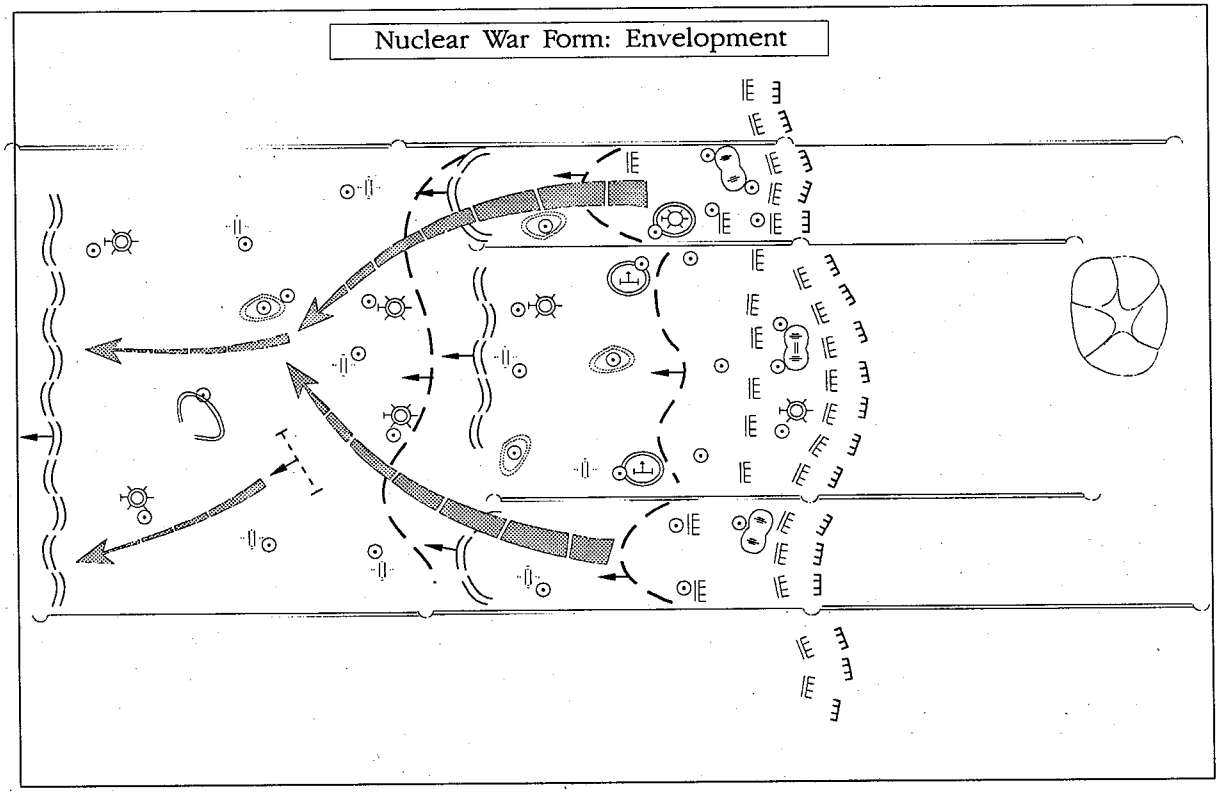

Figure A–6. *Front* Offensive

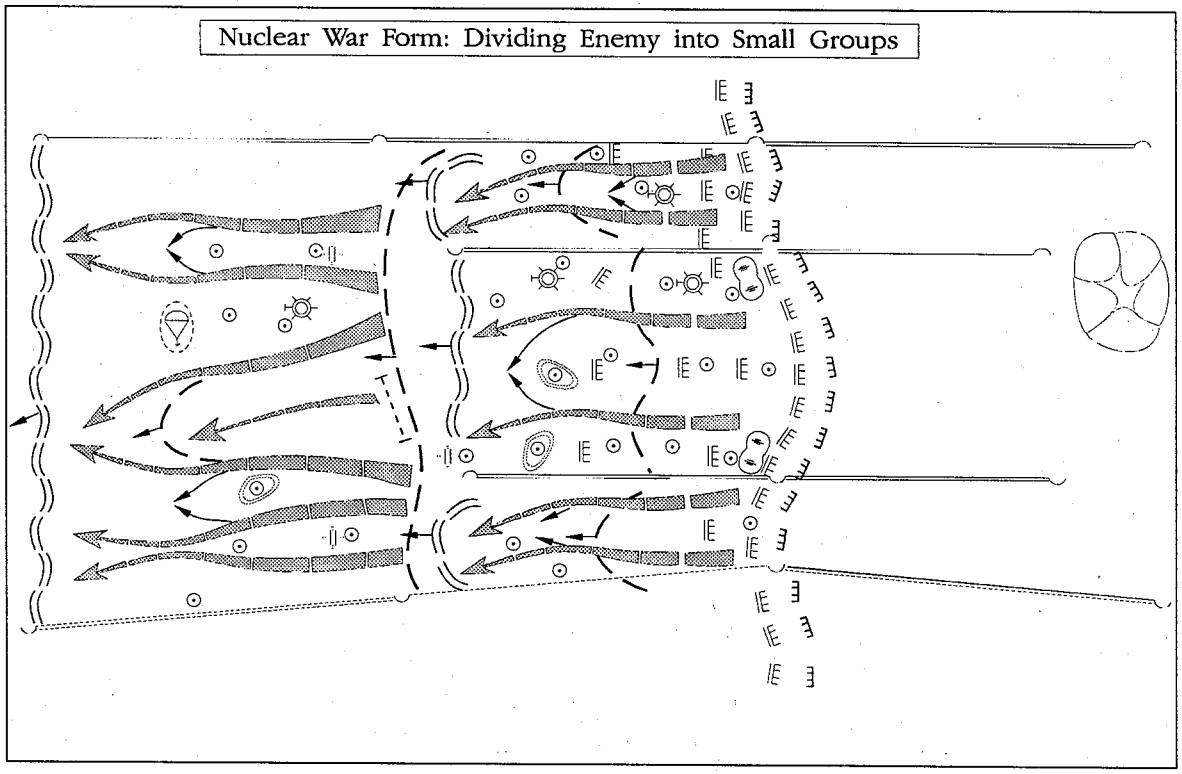

Figure A–7. *Front* Offensive

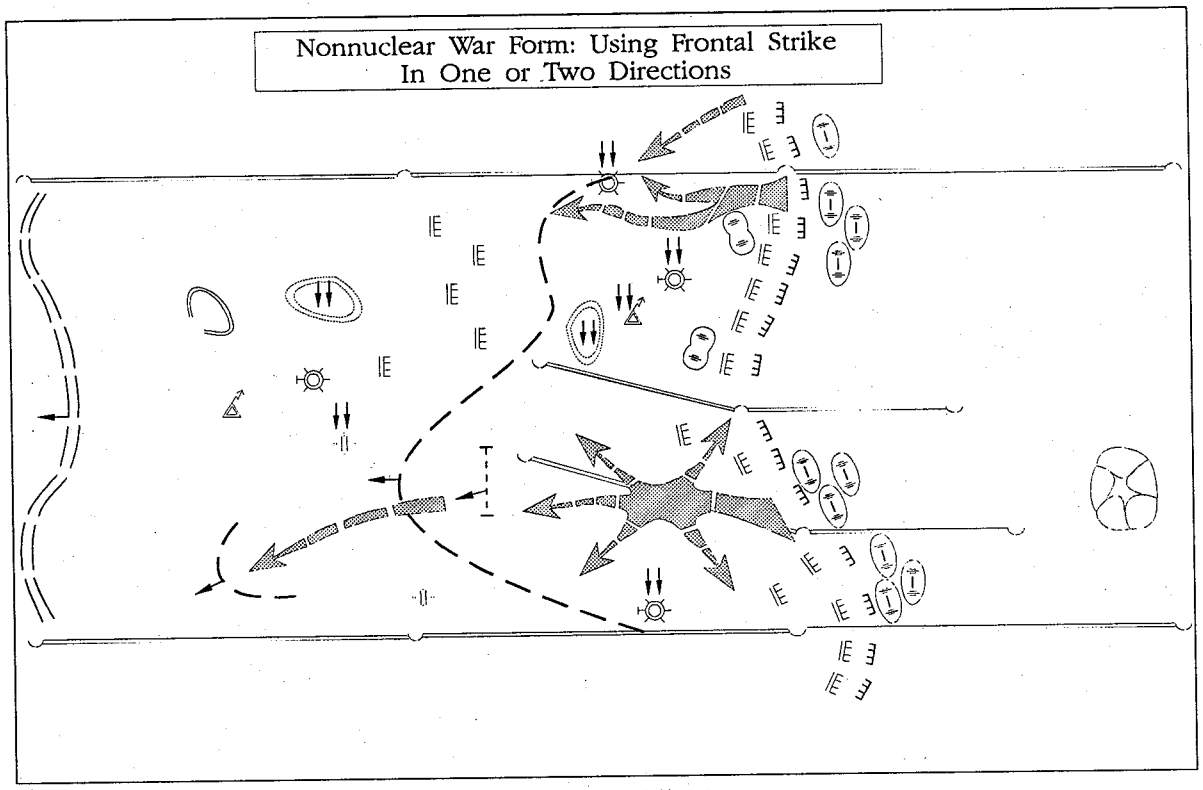

Figure A–8. ***Front*** **Offensive**

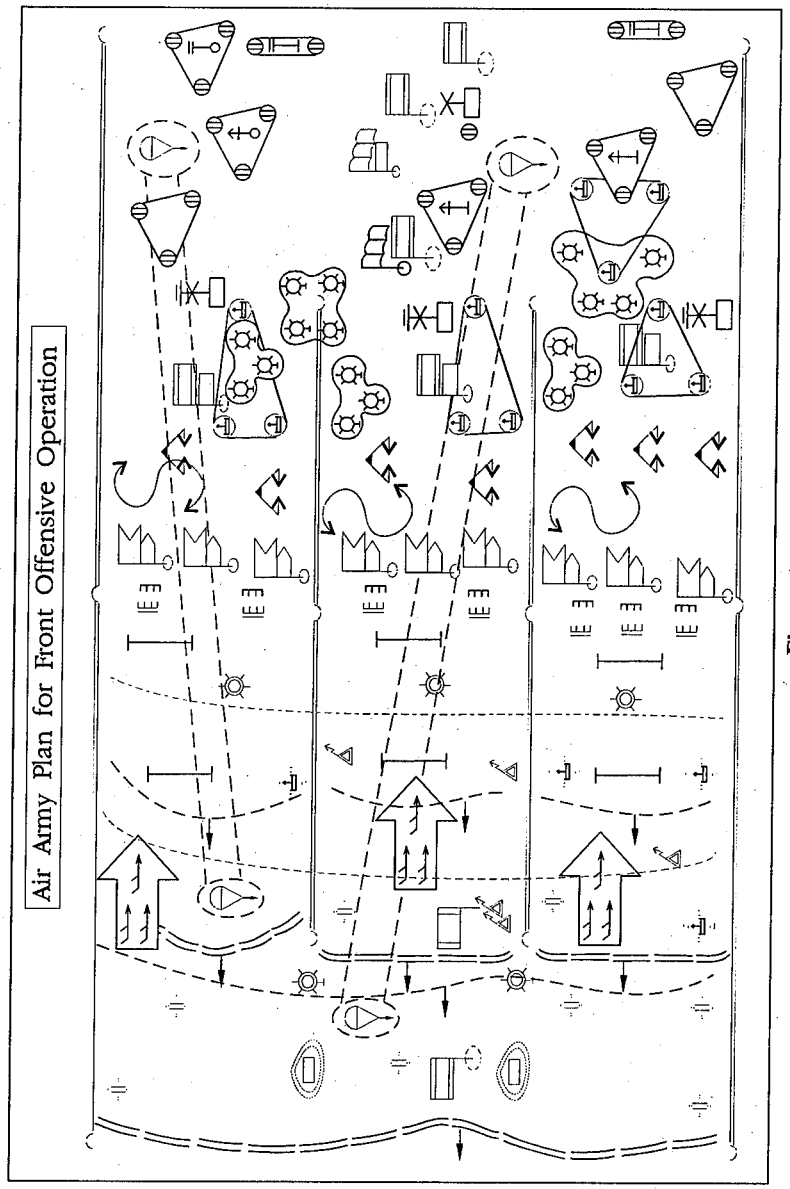

Figure A–9

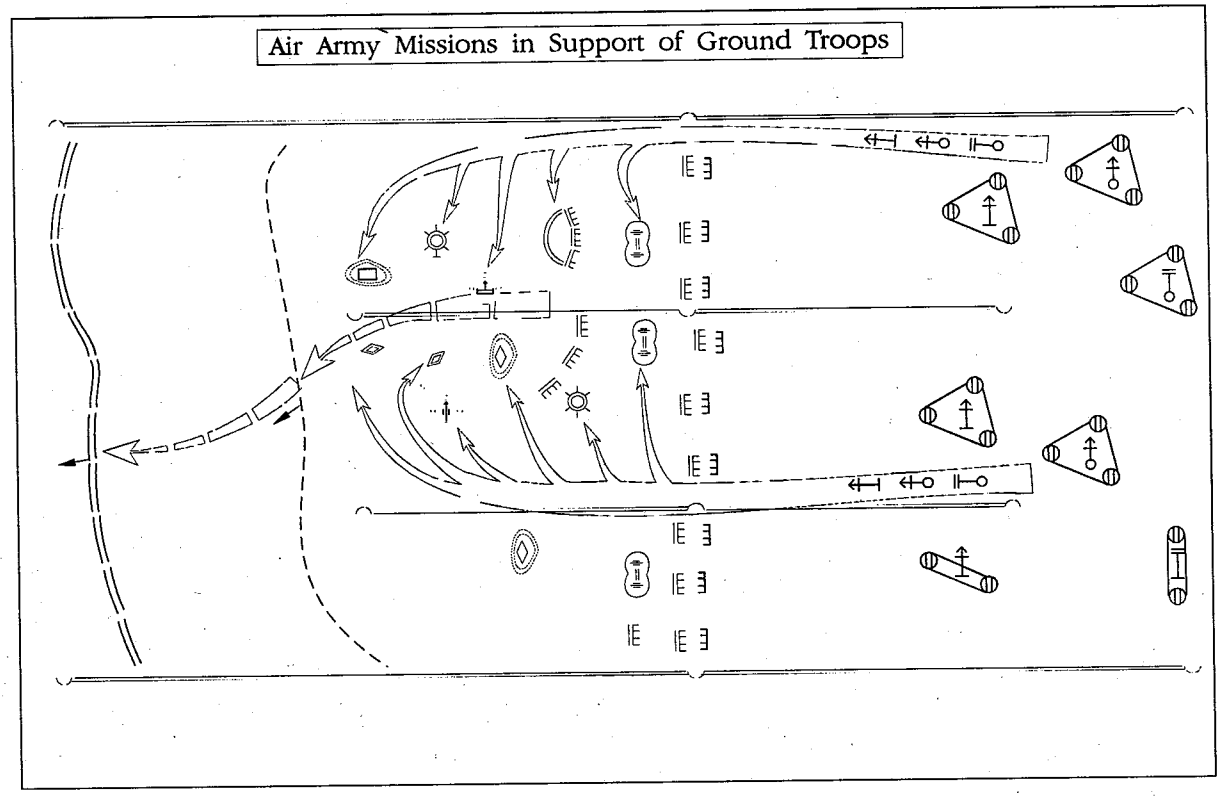

Figure A–10

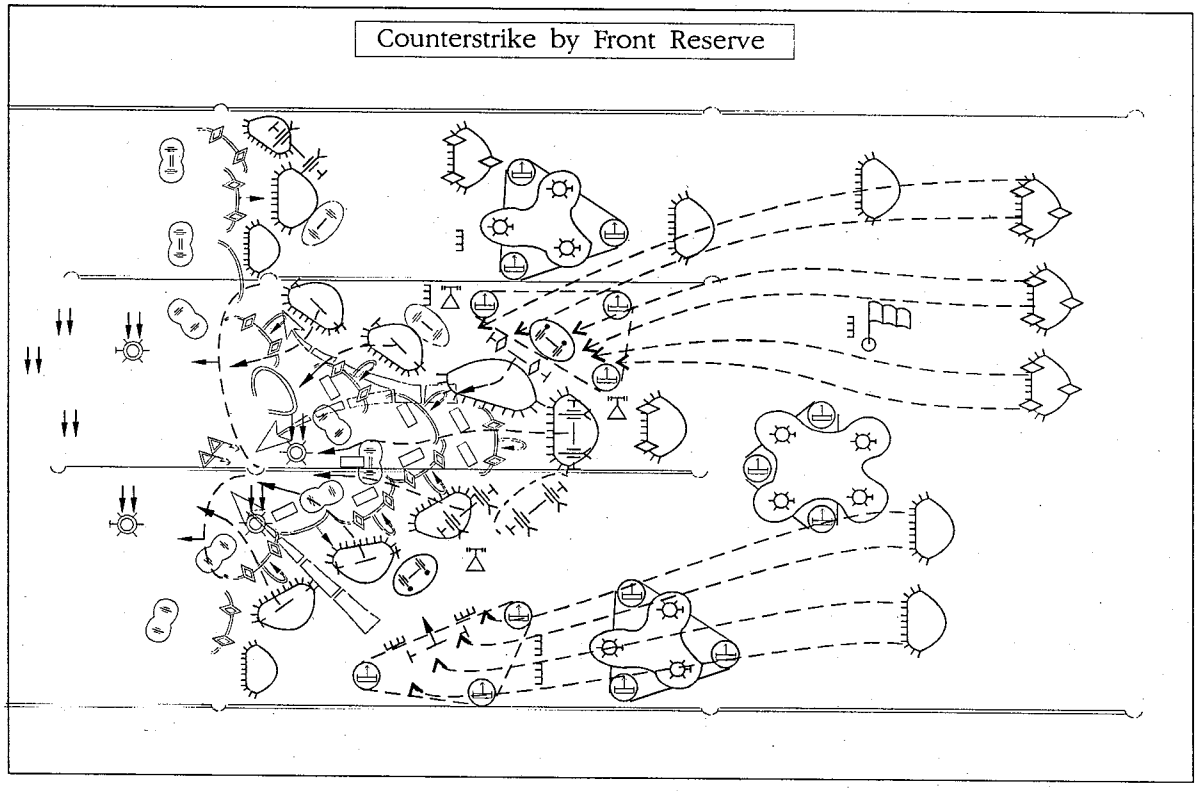

Figure A–11. *Front* Defensive

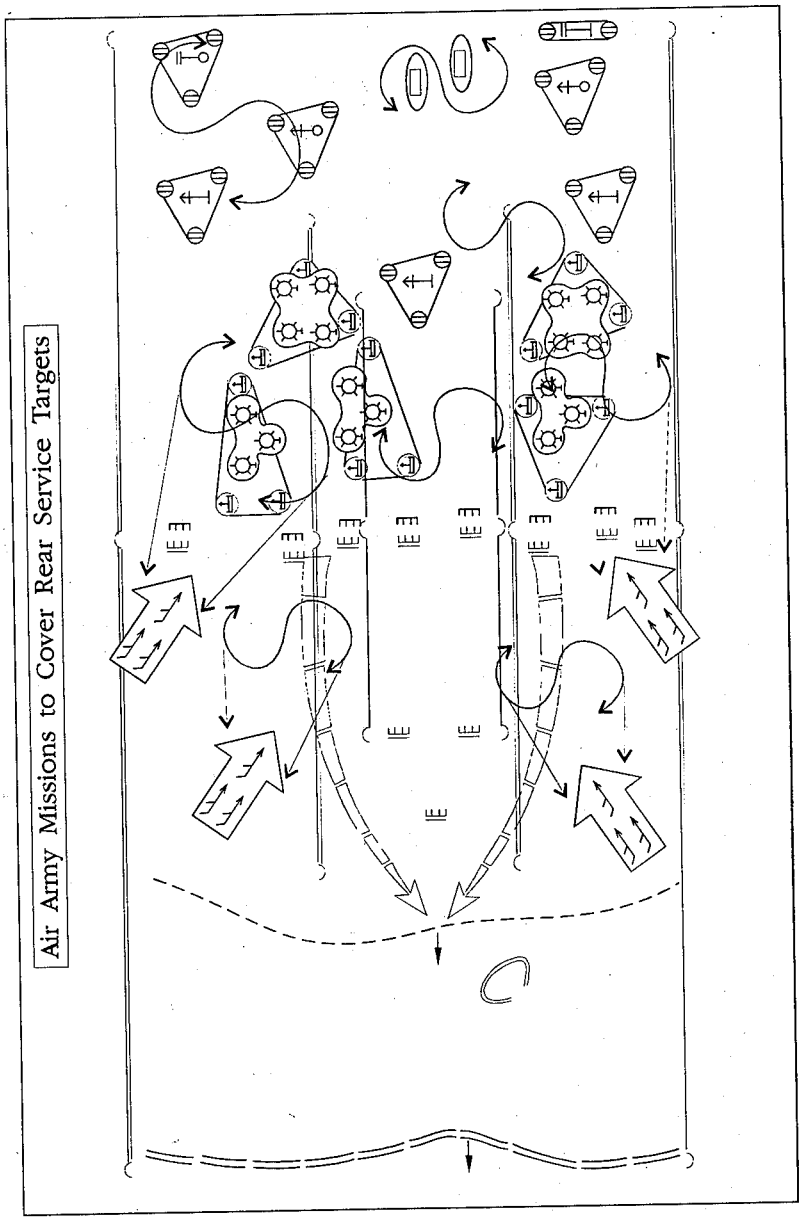

Figure A–12

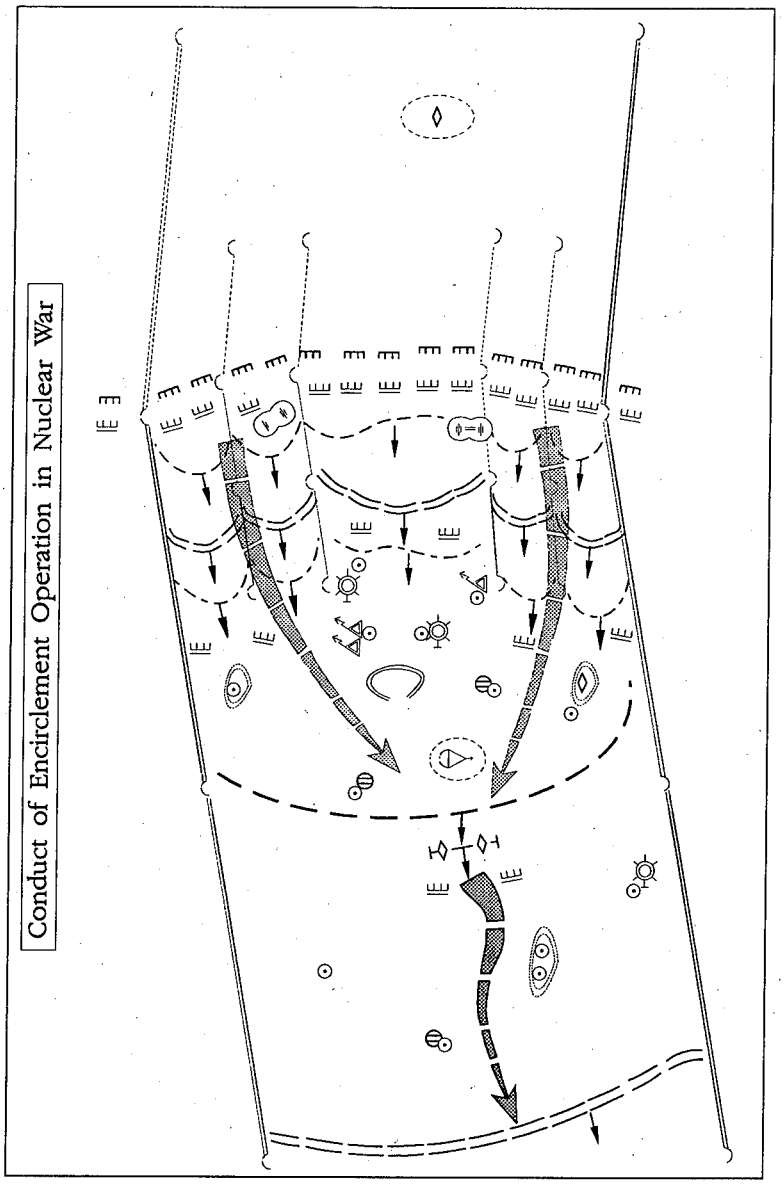

Figure A–13. Army Offensive

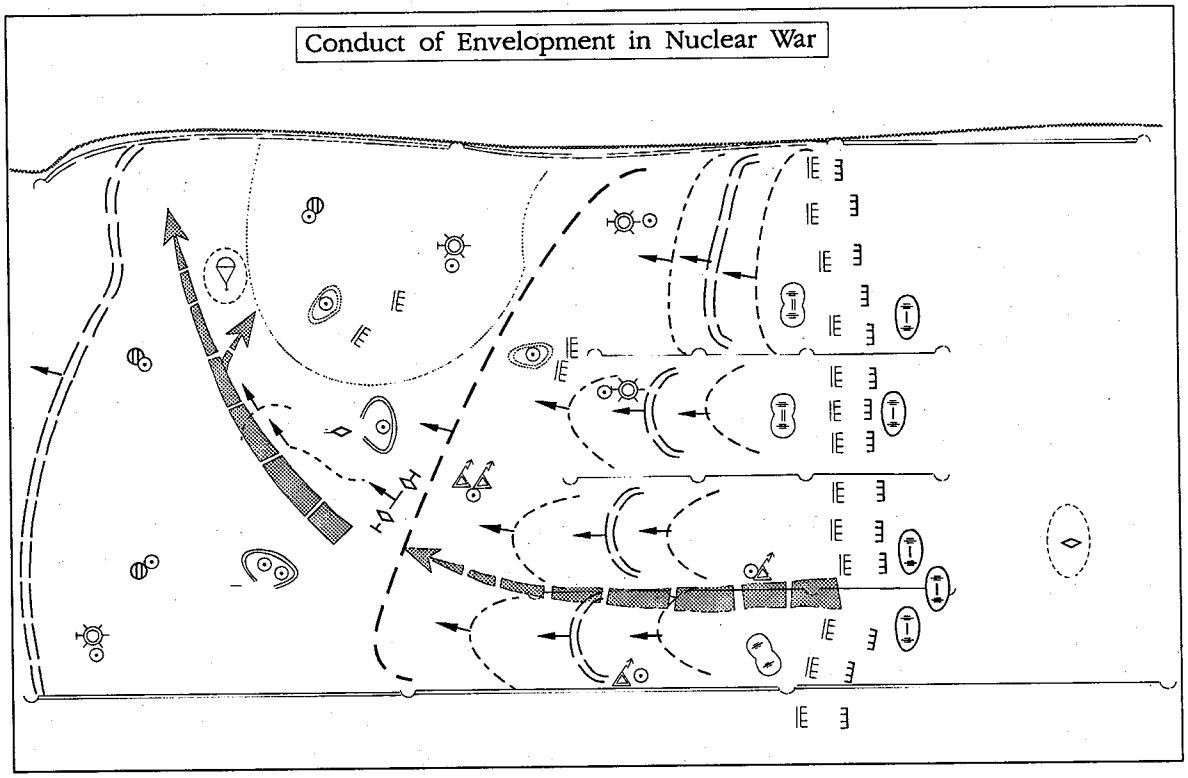

Figure A–14. Army Offensive

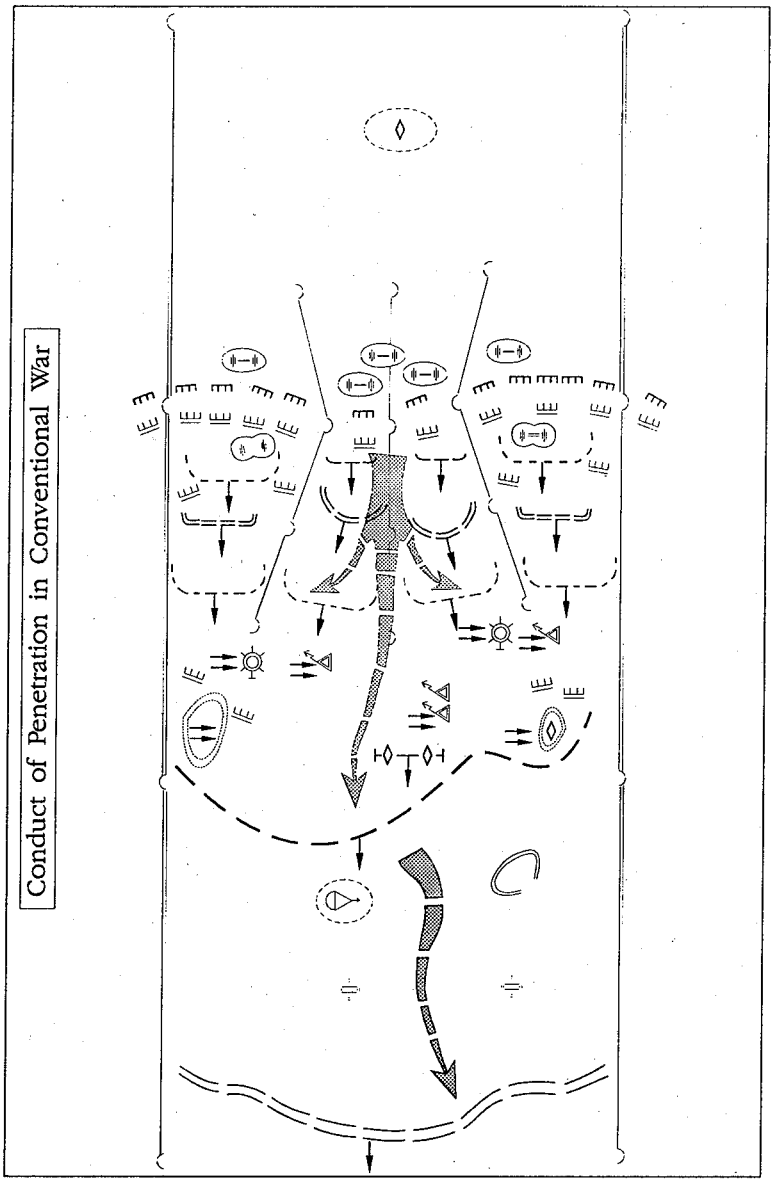

Figure A–15. Army Offensive

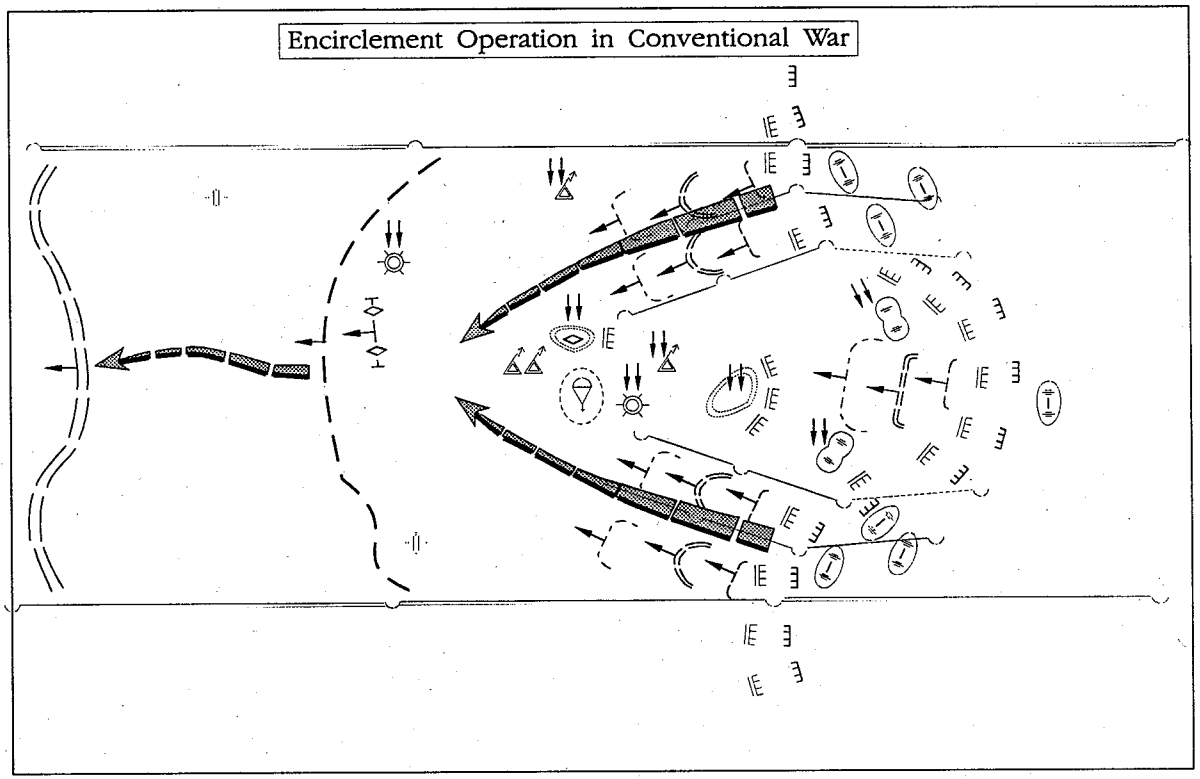

Figure A–16. Army Offensive

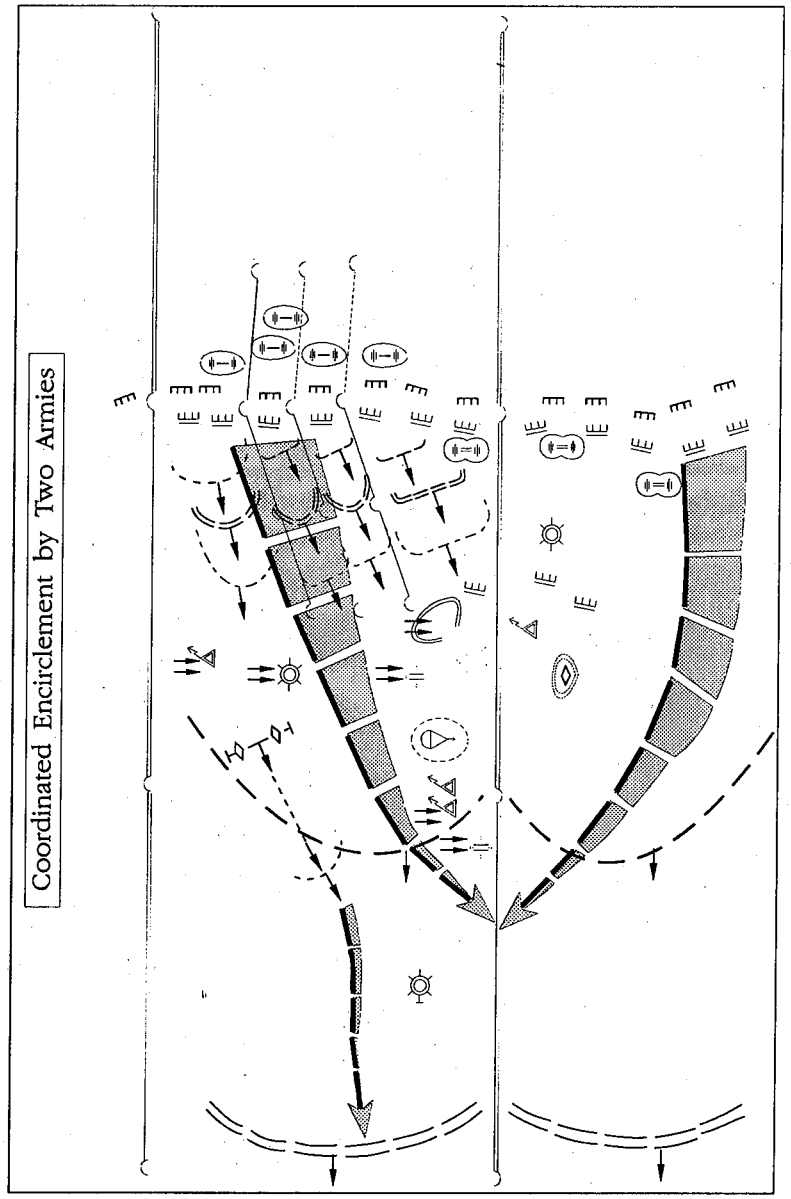

Figure A–17. Army Offensive

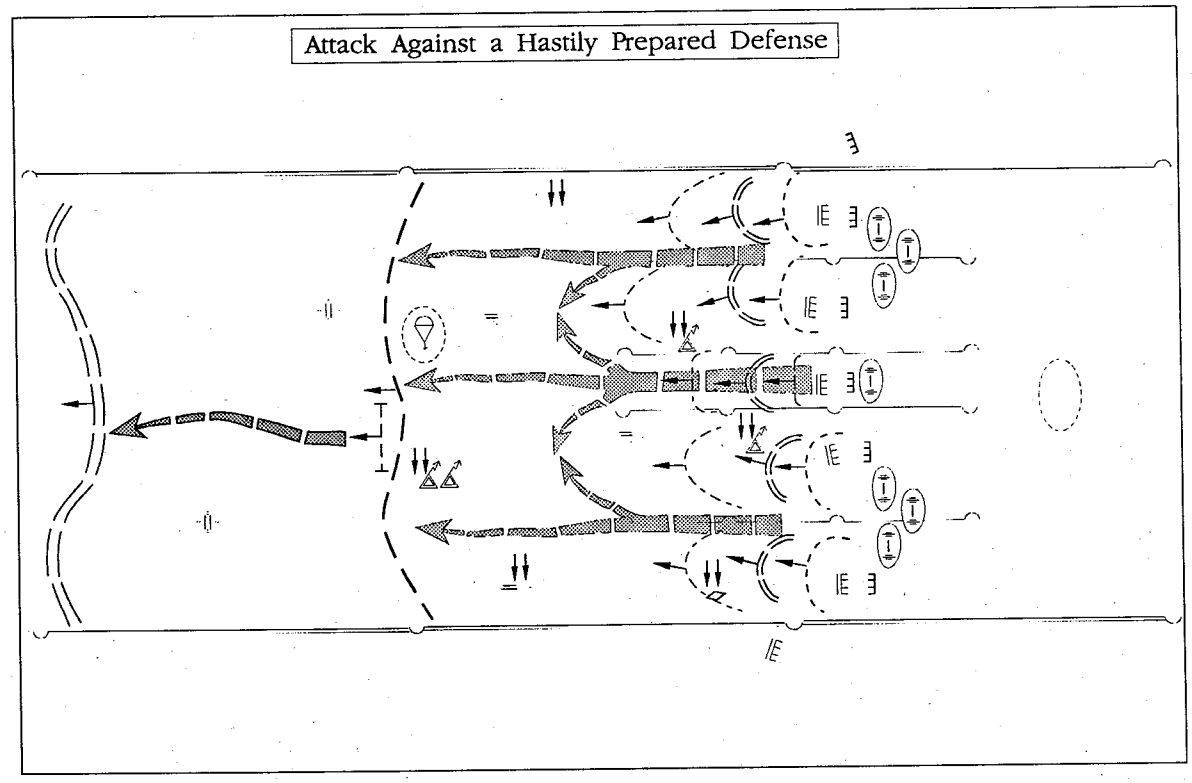

Figure A–18. Army Offensive

*Glossary of Soviet Military Terms**

ARMEISKAIA ARTILLERIISKAIA GRUPPA (AAG) Army artillery group: The army artillery group is organized for the accomplishment of missions in support of the main forces of the army in the operation. These missions include combat with the enemy's tactical nuclear means and artillery; inflicting losses on enemy reserves and command posts; and supporting the first echelon divisions in the direction of the main attack. Depending on the number of first echelon divisions operating in the direction of the main attack, the army artillery group can be divided into several subgroups.

The number of artillery battalions in the army artillery group can be 8-10 or more. In addition, a rocket artillery group can be established at the army level.

ARMEISKAIA GRUPPA REAKTIVNOI ARTILLERII (AGRA) Army rocket artillery group: In order to use the enormous capability of rocket artillery organic to the artillery division reserve of the Supreme High Command, a separate rocket artillery group is established in the army for

*These definitions, prepared by Colonels Wardak and Jalali, are based principally upon material presented at the Voroshilov General Staff Academy in the mid-1970s and the Frunze Military Academy in the early 1980s. The reader is also referred to S.F. Akhromeev, ed., *Voennyi entsiklopedicheskii slovar'* (Military Encyclopedia Dictionary) (Moscow: Voenizdat, 1986), for additional discussion of a number of these, and other, key Soviet military terms. It should be noted that throughout the glossary and the text, frequent reference is made to military organizations of various sizes that in some cases have no precise English translation. In this regard, *podrazdelenie* has been translated as "small unit" or "subunit" (typically denoting a force of battalion, company, or platoon size); *chast'* has been translated as "unit" (usually a regiment or separate battalion); *soedinenie* appears as "large unit" (typically a division or brigade); and *operativnoe ob'edinenie* and *ob'edinenie* are rendered as "operational formation" and "formation," respectively (both terms usually referring to an army or *front*).

central use in the direction of the army's main attack. It provides for rapid maneuver of artillery in the directions required to conduct missions for inflicting maximum losses on the main grouping of the enemy.

ARMIIA PROTIVOVOZDUSHNOI OBORONY (PVO) Air defense army: An operational formation of the National Air Defense Forces assigned for the air defense and cover of political, administrative, industrial, and military centers; groupings of ground, airborne, and naval forces; and groupings of aircraft mobilization areas, naval bases, airfields, communication routes, and supply bases against enemy air strikes.

The composition of an air defense army is not constant, but depends on the mission, significance of the direction to be covered, characteristics of the TSMA, scope of the covered area, and the nature of enemy action. An air defense army having one to two corps, two to four air defense divisions, and other separate units of troop and service arms can have the following composition:

—5 to 7 air defense rocket brigades;
—15 to 20 air defense rocket regiments;
—6 to 12 fighter aviation regiments;
—3 to 6 radio-technical brigades (regiments);
—1 separate radio regiment of special designation [jamming] (*otdel'nyi radiopolk spetsial'nogo naznacheniia-spetsnaz*);
—2 to 3 radio-technical battalions [jamming] (radio-technical battalions of special designation *spetsnaz*);
—signal center;
—engineer units;
—chemical protection units;
—rear service units and installations.

The area of action of the army is assigned by the General Staff.

ARTILLERIIA RESERVA VERKHOVNOGO GLAVNOGO KOMANDOVANIIA Artillery reserve of the Supreme High Command: Artillery units and large units whose employment and allocation are reserved by the Supreme High Command. Their armament is similar to that of the combined arms troops' artillery, and also includes high power (heavy) and special guns (175-mm to 240-mm). While artillery reserves of the Supreme High Command are not organic to combined arms units and large units, they are temporarily assigned by the Supreme High Command (i.e., temporarily placed in operational subordination) to reinforce combined arms groupings operating in the main direction(s).

ARTILLERIISKAIA GRUPPA Artillery group: The artillery group includes artillery subunits, units and large units grouped during battle (operations) to conduct missions in support of combined arms units (large units and operational formations) and is controlled by unified command. The artillery group is under command of the commander of the combined arms unit, large unit, and operational formation. The composition of the group depends on the size of the penetration area

(breakthrough area), nationality of the defending troops, support requirements, the number of targets, available artillery resources, and the missions to be accomplished to destroy the targets by artillery. The composition of an artillery group can be changed during battle (operation).

ARTILLERIISKAIA PODDERZHKA Artillery assault support fire: Artillery assault support fire is an artillery action at the beginning and during the conduct of the assault by friendly troops, which inflicts direct and continuous losses on the enemy by fire in front of, and on the flanks of, the attacking troops to create conditions for their uninterrupted advance. At the same time, it continues to inflict losses on targets in the depth of the enemy defenses. The artillery assault support fire begins after the end of the artillery preparatory fire. The principal methods of assault support fire are:

—*ognevoi val* (OV) rolling fire simultaneously on one or two lines combined with concentration of fire;

—*posledovatel'nyi sosredotochennyi ogon'* (PSO) successive concentration of fire simultaneously on one or two lines;

—*sosredotochennyi ogon'* (SO) concentration of fire on call by the commanders of attacking subunits.

The artillery assault support fire during the attack is coordinated with the advance of the motorized rifle and tank battalions (regiments).

ARTILLERIISKAIA PODGOTOVKA Artillery preparation: A direct combat action of the artillery prior to the assault of infantry and tanks. It is conducted to destroy (suppress) and to annihilate enemy targets. Artillery preparatory fire is pre-organized fire to deprive the enemy of his capability to resist attacking troops. Artillery preparatory fire is part of the assault preparation fire. It begins at a specific time and ends on the arrival of the attacking subunits at the assault line. The duration and composition of artillery preparatory fire is determined by the concept of the operation (battle) grouping of the troops, characteristics of the enemy defense, required degree of inflicting losses on the enemy, and also the nature of missions conducted by the air force, rocket troops, and other elements. The duration of preparatory fire during an attack from the march includes the time from the deployment of the units into battalion columns until they reach the assault line. In an attack from direct contact with the enemy, the duration of preparatory fire is determined by the number of targets to be destroyed or by the width of the penetration area and the nationality of the enemy. Preparatory fire consists of one or several fire strikes for a duration of 20 to 40 minutes or more. During penetration of the enemy defense in the depth of his defenses, during the commitment of the second echelon troops into battle (engagement), and during the conduct of counterattacks (counterblows), its duration can be 10 to 30 minutes.

ARTILLERIISKOE OGNEVOE SOPROVOZHDENIE Artillery accompanying fire: An artillery combat action during the development of the attack in the depth of the enemy defenses. It is conducted by artillery and rocket strikes with non-nuclear warheads to inflict losses on newly detected targets and surviving enemy troops, which hamper the advance of the attacking troops. Artillery accompanying fire is part of accompanying fire. It begins at the end of the artillery assault support fire and continues until the accomplishment of the combat mission by the troops.

During artillery accompanying fire, artillery preparatory fire and artillery assault support fire can be conducted at specific junctures such as at the prepared defensive lines in the depth of the enemy defenses which are to be penetrated on the march; in repelling enemy counterattacks; in supporting the action of airborne troops; during the commitment of second echelon troops into battle, etc. Accompanying fire is conducted by methods of concentration fire (SO) and massive fire (MO) or by fire with artillery platoons, batteries, and battalions on call by the combined arms commander.

AVANGARD Advance guard: A motorized rifle or tank subunit detached by a combined arms unit for tasks in advance of the main body of troops. In the march, the advance guard serves as a march security element which is detached by the main body along the direction of march to ensure uninterrupted movement of the main body, to prevent enemy surprise attack on the main body, to prevent the infiltration of enemy ground reconnaissance in the area of the march of the protected troops, and to create favorable conditions for the deployment and commitment of the main body into battle.

In the attack, advance guards are detached from first echelon regiments to destroy enemy units defending in the security zone, or during pursuit to destroy the enemy's covering troops and to delay the withdrawal of the enemy's main troops.

AVIATSIIA PROTIVOVOZDUSHNOI OBORONY (APVO) Air defense aviation: An arm of the National Air Defense Forces, which is assigned to cover important directions, areas, and targets against enemy air strikes. Air defense aviation destroys enemy aircraft in the air at long distances from the covered targets. Air defense aviation includes fighter aircraft and also transport helicopters and other aircraft.

AVIATSIONNAIA GRUPPIROVKA Aviation grouping: Aviation groupings consist of aviation formations, large units, and units. They are deployed or concentrated to conduct combat missions during an operation (battle) in accord with the concept of the operation. Aviation groupings are established in TSMAs along strategic and operational directions, and in areas of combat actions. In terms of scale, the groupings may be strategic, operational, or tactical and organized into main force (strike) groupings, support echelons, and development forces.

AVIATSIONNAIA PODDERZHKA Air support: A type of aviation support conducted to support the assault of the troops. It supports combat

formations and large units of the ground forces in operations or battle. It is part of the supporting fire of the attack. Air support begins when the troops initiate the assault. It is conducted by *front* aviation. Air support suppresses or destroys the enemy's nuclear delivery means, immediate reserves, command posts, strong points, weapons, and other targets. Small and mobile targets and targets out of range of artillery are among those suppressed by aviation means.

AVIATSIONNAIA PODGOTOVKA Air preparation or air preparatory fire: Air preparation (preparatory fire) to support the assault of the troops is a type of aviation combat action which is carried out before the commencement of the assault by ground forces in order to inflict casualties on the enemy. It is an integrated part of preparatory fire of the attack, and is simultaneously conducted with artillery preparatory fire. During air preparatory fire, *front*, army, and sometimes Long-Range Aviation participate. Air preparatory fire primarily attacks enemy nuclear delivery means; command posts; tanks, artillery, and their assembly areas; defensive strong points and defensive areas; enemy aircraft on airfields and the airfields themselves; and crossing sites. During air preparatory fire, small and mobile targets and the targets which are out of the range of the artillery are suppressed by aviation.

AVIATSIONNOE OGNEVOE SOPROVOZHDENIE Aviation accompanying fire: A type of aviation support conducted on behalf of the attacking troops, and in constant cooperation with the troops in the depth of enemy defenses, by launching air attacks on enemy nuclear delivery means; reserves; tanks, rockets, and artillery systems; and defensive strong points. It is part of the accompanying fire during the offensive operation.

AVIATSIONNOE PEREKRYTIE Air cover: One of the main tasks of fighter aviation. It is conducted to prevent enemy air strikes on the main body of troops, rocket troops, airfields, fleet components, and rear service installations, as well as to prevent air reconnaissance by the enemy. In addition, air cover is conducted to protect the units and subunits of other aviation arms and services.

Air cover is achieved through the active and decisive actions of fighter aircraft to destroy the enemy's aircraft in the air. Air cover is conducted in coordination with the grouping of air defense troops.

AVIATSIONNO-TEKHNICHESKAIA CHAST' Aviation-technical unit: The principal organizational unit of aviation rear services organic to the Air Forces, Naval Aviation, and National Air Defense Forces aviation assigned to provide direct supply of materiel and equipment, technical support of the airfields, and medical support of the aviation units deployed on one or several airfields. The aviation-technical unit can be a separate organization, or it can be part of aviation-technical large units. Aviation-technical units include aviation bases and technical support battalions (companies).

AVIATSIONNO-TEKHNICHESKOE SNABZHENIE Aviation-technical supply: A system of measures conducted to supply aviation units, large units, and operational formations with all types of aviation materiel and equipment. Aviation-technical supply is conducted by the associated services of the aviation rear services, and aviation-technical units and large units, through depots and aviation-technical bases.

AVIATSIONNYI PREDSTAVITEL' Aviation representative: An air staff officer, or a member of the command element of an aviation operational formation (large unit), attached to an operational formation (large unit) of the Ground Forces, fleets, and Airborne Troops in order to maintain constant coordination of aviation with these troops. The aviation representative is authorized to control the aviation troops in the air, to confirm the previously assigned missions and to direct them to other targets. The aviation representative is attached to the designated headquarters along with a number of required personnel and communication means to ensure his ability to communicate with his parent unit, with aircraft, and with supported troops.

BAZIROVANIE AVIATSII Basing of aviation: The use of airfields, airfield complexes, bases, depots with materiel reserves, lines of communication, local food sources, and designated civilian installations by aviation units and subunits in order to deploy in support of daily aircraft operations in peacetime, and in support of combat action in time of war.

BESPILOTNYE RAZVEDYVATEL'NYE LETATEL'NYE APPARATY Pilotless reconnaissance aircraft drones: Pilotless aircraft which provide strategic, operational, and tactical air reconnaissance in continental and oceanic TSMAs. These pilotless reconnaissance means are capable of conducting reconnaissance during day and night (through photography, radar, and other collection means).

BIOLOGICHESKOE ORUZHIE Biological weapons: A weapon of mass destruction. The basis of their action is the use of military biological means to create epidemic disease. The high combat effectiveness of biological weapons is based on the limited possibilities of their detection and the capability for secret employment in large areas where masses of people, animals, and plants are contaminated. They produce strong psychological effects and create difficulties in protecting people and troops, and in eliminating their effects.

BIOLOGICHESKOE ZARAZHENIE Biological contamination: Contamination of the terrain and air in contact with the ground by microorganisms of epidemic disease, the use of which contaminates masses of people, animals, and plants.

BLIZHAISHAIA ZADACHA Immediate mission: The immediate missions of subunits, units, large units, and operational formations of the ground forces in the attack are normally the destruction of enemy nuclear delivery means, destruction of his main forces in the specified area,

and seizure of lines (areas, objectives) which facilitate the development of the attack and accomplishment of the long-range (subsequent) mission.

The immediate mission of a first echelon division is penetration of the enemy's defense in the depth of his first echelon brigades and seizure of the positions of his brigade reserves.

BOEVAIA GOTOVNOST' Combat readiness: Combat readiness (operational readiness) is the capability of troops to initiate combat action in the shortest time under all conditions of a given situation, and to accomplish successfully combat missions at the specified time.

Combat readiness is determined by the combat capabilities of the troops; an accurate understanding of the missions by the commanders, staffs, and political organs; completeness of organizational cadres; completeness of supplies; operability of combat equipment; timely preparation for the upcoming operation; and anticipation of likely changes in the situation. The level of combat readiness in peacetime should be such as to ensure the rapid passage of the troops from peacetime to wartime status, organized commitment of the troops into military action, and their capability to accomplish assigned combat missions.

There are three levels of combat readiness.

—*Postoiannaia boevaia gotovnost'* Constant (routine) combat readiness or Level (*stepen'*) 3. This level ensures the completeness of the troops in personnel and materiel to the extent possible, and maintaining the operability of combat equipment in the conduct of routine activities.

—*Vysshaia boevaia gotovnost'* Increased combat readiness or Level 2. This level is associated with bringing all personnel to permanent residence in the barracks (garrisons), loading supplies on vehicles, assigning operational and combat duty details, and preparing for passage to full combat readiness in the shortest time.

—*Polnaia boevaia gotovnost'* Full combat readiness or Level 1. This level includes leaving the garrison, occupying assigned areas, and fully preparing troops to conduct assigned combat missions.

BOEVAIA ZADACHA Combat mission: A mission assigned by higher commander to subunits, units, large units, and operational formations to achieve specified aims in battle (operation) at the specified time. The content of combat missions depends on the importance, number, combat capability, combat power of friendly and enemy troops, and also the conditions of the situation. The combat mission of an operational formation (large unit, unit, subunit) in the offensive is normally the destruction of the main troops of the enemy in a specific area and seizure of assigned lines (areas and objectives). The time of accomplishment of the action and the method of action can also be included in the

content of a combat mission. A combat mission is divided into immediate and long-range (subsequent) missions. In the defense, a combat mission includes repelling enemy blows, inflicting maximum losses on him, and retaining (holding) specified areas or lines (positions). The most important part of a combat mission in the attack and the defense is the destruction of the enemy's nuclear means.

BOEVOE DEZHURSTVO Combat (on-call) duty: Combat duty constitutes a status in which specific forces and means are brought to full combat readiness to accomplish missions or conduct combat actions which unexpectedly arise. Combat duty may be conducted in peacetime or wartime.

The forces and means assigned to combat duty initiate action in accord with the command (signal) of the higher commander. When such an order or signal fails to reach the duty forces for any reason, these forces initiate action in accord with the decision of their immediate commander.

BOEVOI PORIADOK Organization for combat or combat formation: The grouping of large units, units, and subunits with support means to conduct the battle in accord with the commander's decision. The combat formation is established in accordance with the form, character, and the concept of combat to be fought. It should establish superiority in forces and means over the enemy in the direction of the main attack and should ensure that the maneuver reinforces efforts for exploitation. It also should ensure troop coordination and control in the course of combat. The organization for combat should ensure the decisive destruction of the enemy by skillful use of all weapons and means, terrain, and the consequences of the fire of higher echelons against enemy targets. The basis of the combat formation consists of motorized and tank subunits. Other arms and services are included in accordance with the concept of the operation of these motorized and tank units. The organization for combat should be established to maximize the capabilities of the weapons in accordance with the concept of the operation.

DAL'NEISHAIA (POSLEDUIUSHCHAIA) ZADACHA Long-range (subsequent) mission: The long-range mission assigned to combined arms operational formations in the attack is conducted after the accomplishment of the immediate mission. The long-range mission of an operational formation is normally the destruction of newly detected nuclear delivery means, completion of the destruction of opposing enemy groupings and its operational reserves, and seizure of areas which provide for the achievement of the aim of the operation.

For large units, a subsequent mission is assigned which is conducted after the accomplishment of the immediate mission. It includes the penetration of the enemy defenses in the entire depth of the enemy's divisions' defensive area, destruction of enemy divisional reserves, and

seizure of lines which ensure the development of the attack in the depth and to the flank.

DAL'NIAIA AVIATSIIA Long-Range Aviation: Part of the *Voennovozdushnye sily* (VVS—Air Forces) directly under the control of the Supreme High Command. It is assigned to inflict losses on the enemy's vital targets in a theater of strategic military action and conduct air reconnaissance. Long-Range Aviation accomplishes its missions independently or in cooperation with the Strategic Rocket Forces, Navy, Group Forces' operational formations, and National Air Defense Forces.

Long-Range Aviation is organized into aviation corps and aviation divisions, which are equipped with rocket-armed aircraft and bombers. These aircraft carry nuclear and various conventional rockets and are the type of aircraft capable of carrying a heavy load of bombs and rockets a long distance.

DEZHURNAIA SLUZHBA Patrol (on-call) service: This comprises a series of complex measures taken by commanders and staffs of units, large units, and formations during peacetime or wartime to conduct patrol (on-call) activities to monitor enemy actions. These measures include specifying lines and positions for patrol activity, specifying the composition of participating and supporting forces, and indicating the actions to be taken when the enemy is detected as well as other measures.

DIVERSIONNAIA GRUPPA Diversionary group or sabotage group: Groups consisting of units, subunits, partisan detachments, or individual persons located in the rear of the enemy to destroy military industrial targets, disrupt enemy control, and destroy communications groups, personnel, and equipment and destroy other targets. It must be noted that inflicting losses on the enemy by subversive actions greatly affects enemy morale.

DIVIZIONNAIA ARTILLERIISKAIA GRUPPA (DAG) Division artillery group: The division artillery group is organized and assigned to combat the enemy's tactical nuclear means, artillery, and mortars; to inflict losses on the immediate enemy reserves, radioelectronic means, and command posts; and to reenforce the fire of regimental artillery groups operating on the direction of the main attack of the division.

The division artillery group includes several artillery battalions of the same or different calibers. There can be four to six artillery battalions or more found in a DAG.

ESHELONIROVANIE MATERIAL'NYKH SREDSTV Echelonment of materiel means: Echelonment of materiel reserves in an operation (combat) is carried out to meet the requirements of troops for ammunition, POL, food, and other supplies; effectively protect materiel reserves from enemy actions; and provide more freedom of action to troops for longer periods of time. Such echelonment is determined by the directives and orders of higher commanders.

FORSIROVANIE VODNYKH PREGRAD Forcing water obstacles: A crossing by attacking troops across a water obstacle to the far bank which is defended by enemy troops. The troops in a combat river crossing use tanks, BMPs, self-propelled rafts, and other vehicles. The river crossing is normally conducted on the march (without stopping) to ensure that the high speed of the attack is maintained, and to create favorable conditions to shift the main efforts rapidly to the far bank. A combat river crossing on the march is conducted on a wide front and includes the following elements:

—destruction of the enemy on the river bank;
—crossing of the forward detachments and advance guards, which, along with airborne assault elements, seize bridges and crossing sites or cross the river by means of their own organic equipment;
—crossing of the main troops of the first echelon.

The second echelon troops and reserves are crossed to the far bank in accordance with the development of the attack by their own means or through prepared crossing sites, and are committed for exploitation of the success achieved by the first echelon.

If the river crossing does not succeed on the march, the main forces deploy at the water obstacle and, after a brief preparation, the crossing is conducted by the troops in direct contact with the enemy or by troops advancing from the depth. In this case, prior to the assault crossing, artillery preparatory fire is conducted, which is followed by assault support fire after the initiation of the assault crossing.

GRAZHDANSKAIA OBORONA Civil defense: A system of general national and military measures taken in peacetime and war to protect the population and national economy from weapons of mass destruction and other means of enemy air attack, and also to conduct rescue operations and urgent repair work and restoration in casualty centers and in areas of natural disaster.

The missions of civil defense are as follows:

—directly protecting the population from weapons of mass destruction and other enemy means;
—maintaining the operation of State organs and the national economy during war;
—eliminating the consequences of enemy attack during war and the impact of natural disasters in peactime;
—preparing civil defense forces and the population for war;
—conducting rescue and restoration operations;
—providing security for social order.

GRAZHDANSKO-OBORONOE NAPRAVLENIE Civil defense direction: A terrain area where civil defense forces and means are located. A civil defense direction may include one or several regions of a city as well as rural localities included in the area. Civil defense forces and means are deployed to civil defense directions in accord with the availability of resources and the type and scope of destruction or contamination.

GRUPPA BOEVOGO UPRAVLENIIA (GBU) Combat control group: The combat control group is detached from an air army and posted at the command posts of the first echelon divisions of the *front*. Their mission is to conduct coordination of aviation troops with the motorized rifle and tank divisions and airborne troops, provide mutual identification between the aircraft and ground forces, and guide the aircraft to the ground targets.

GRUPPIROVKA VOISK Grouping of forces: The concentration of the troops, i.e., operational formations, large units, units, or subunits of various arms and services of the Armed Forces and rear service units in a specified system, in accord with the plan and the assigned mission in the operation or battle. Groupings of forces are established in the TSMA and on strategic directions, on operational directions, or in specific areas in zones. Depending on the Service or branch of the Armed Forces, the grouping of forces is classified as follows: Grouping of Air Forces, Air Defense Forces, Artillery, etc. In terms of the scale, a grouping is designated a strategic grouping, operational grouping, or tactical grouping. In terms of the mission, groupings are classified as main groupings, strike groupings, etc.

ISKHODNYI RAION Staging area: An area fortified by engineer troops for large units, units, and subunits before the initiation of an attack, river crossing, or airborne assault operation. It is selected at such a distance from the enemy that the deployed forces are safe from enemy artillery fire. It may also be occupied when in direct contact with the enemy.

Within the staging area are the lines and positions for the covering troops, positions for the first echelon units, assembly areas for the second echelon troops and reserves, positions and areas for rocket and artillery troops and air defense troops, and the movement and maneuver routes for the second echelons and reserves, command posts, and rear service control points. It is prepared beforehand or by the troops when they reach the area.

ISKHODNYI RAION DLIA DESANTIROVANIIA Staging area for airborne or seaborne assault landing operations: An area on the ground reinforced by engineer work for the deployment of subunits, units, and large units before they are embarked to conduct assault landing operations. In the case of airborne operations, for example, it provides for force concentration in preparation of the airborne assault operations and operations of military transport aircraft. The staging area, in this case, includes the following elements: areas of deployment of airborne units, waiting areas, and the main airfields and reserve airfields for military transport aircraft or areas for landing of helicopters. It is covered by air defense units.

ISKHODNYI RUBEZH Start line or line of departure: A designated line from which troops begin to conduct assigned missions. The departure line is assigned in order to ensure simultaneous action of troops in a march or

during river crossings. The departure line in the march is located a specific distance from the location of troops or from their assembly area. It is selected at a place which ensures the formation of march column by the units and subunits which are to move at the head of the column at specific times. During river crossing operations, the line of departure is selected at a distance from the river to ensure or facilitate the deployment of troops into combat formation and protect them from the direct fire of enemy artillery, i.e., guns, tanks, and guided antitank rockets. In the attack, the line of departure is actually the line of initiation of the assault.

KOMANDNYI PUNKT (KP) Command post: The main point from which the commander controls his troops. At the command post, along with the commander, are the main component of the staff, the political affairs department, and other departments, and control organs of the various arms and services. There are 45 to 50 percent of control personnel at the command post. The operation is supported by a signal center and supporting elements.

KOSMICHESKAIA SISTEMA Space system: A grouping of space and ground-based forces and means assigned to accomplish special military missions with the help of various types of space means.

The composition of space systems includes the following elements:

—unified space means deployed in space in a specific way and specific orbit, including one or several space vehicles;

—space vehicles prepared for launch with their payload at the launch complex (for the deployment of new space systems or to reinforce active space systems and to compensate for them if the active systems cease to function). There are normally two to three launch complexes in each system;

—two to three command and measurement centers, centers for electronic calculations, and other elements of command and measuring complexes needed for the control of space vehicle flights and their operations in space;

—several receiving centers of information (data) from space means (three to four), which are connected by communication links with the center of collection, processing, and analysis of information;

—search and rescue complexes;

—command posts of the system from which the control of the operation of the system is conducted.

Military space means are under the direct control of the Supreme High Command, and they are centrally employed.

LETNYI RESURS Flight resource (sometimes translated as "sortie rate"): The number of aircraft (helicopter) flights, and the number of aviation subunit, unit, and large unit flights allocated to conduct specific combat missions. The flight resource is determined by the content of the missions, combat composition of subunits, units, large units, and operational formations, their combat capabilities to inflict losses on targets,

probable combat efficiency, training of flight crews, and also availability of fuel, ammunition, and other materiel.

MARSH March: An organized advance of operational formations and troops in marching columns on infantry combat vehicles or by foot on roads in order to reach a specific area or assigned lines by a specific time, prepared to accomplish combat actions. In time of war, the march is conducted parallel to the front or from the front to the rear. In each case it can be conducted with or without the probability of a meeting engagement with the enemy. It can also be conducted under conditions using nuclear weapons or without the likelihood of their use. The march is normally conducted at night or under conditions of limited visibility. It should be conducted at high speed, to the extent that this is possible. Marches are conducted to exploit the operations of the first operational echelon troops, to create new groupings in new directions, to cover the gaps, to participate in a counterblow in order to repel an enemy attack, to accomplish and complete the destruction of individual enemy groups, and to create combined arms reserves in the TSMA, etc.

MARSHRUT March route or direction: The actual march route in a designated direction of march assigned to the troops and transport means. The direction of march is shown on the map by marking the important points through which the direction of march will pass, or it is shown by azimuth. Normally the march will not be conducted through large built-up areas, lines of communication centers, defiles and passes, chokepoints, or in the vicinity of major railroads.

MASKIROVKA Camouflage, concealment, and deception: A collection of measures conducted in terms of aim, time, and space to deceive the enemy about the location, ability, and composition of the troops and targets (especially nuclear rockets), the status of preparation and combat action of the troops, and the plans and intentions of the troops. *Maskirovka* is a type of combat support measure which ensures surprise action and protection of the combat capability of the troops. It can be conducted on different scales, i.e., strategic, operational, and tactical. In terms of the type of enemy reconnaissance encountered, *maskirovka* may be classified as hydroacoustic, sonar, optic, electronic, radar, radiation, radio, radio-technical, heat, and other types. The high effectiveness of *maskirovka* is ensured when it is conducted simultaneously against all types of enemy reconnaissance. It is conducted continuously in all types of troop combat. The forms of *maskirovka* measures are maintaining secrecy, conducting deceptive actions and demonstrative actions, destroying any indications which would disclose or assist the enemy in determining the location or intention of friendly troops, and conducting broad disinformation operations.

MASSIROVANNYI OGON' Massive fire: A type of artillery fire, with all or most of the artillery organic to a large unit, conducted simultaneously

to inflict losses on enemy targets in the shortest possible time. Targets can be fired at singly or simultaneously and distributed among the artillery groups or units and battalions.

MOBILIZATSIIA Mobilization : The collection of a series of measures to bring the Armed Forces, the nation's economy, and State administration to a war footing. This can be a general mobilization or partial mobilization, depending on how much of the Armed Forces of the country is mobilized. The mobilization can be conducted covertly or openly. The announcement of mobilization is conducted through the declaration of the highest authorities of the State. In the Soviet Union, this is the Presidium of the Supreme Soviet. To conduct a successful mobilization of the Armed Forces the following actions should be taken: preparing personnel and resources for quickly providing the necessary means; facilitating the deployment of military organizations; collecting required reserves of weapons, combat equipment, and other materiel means in time of war; appropriately and accurately calculating and alerting related authorities for the collection of required reserves for war in a timely manner; and mobilizing transport means. Economic mobilization includes the following: deploying military production elements; making required adjustments in the nation's economy to support upgrading the production of military materiel; ensuring the operation of transport organs and lines of communication means in the interest of meeting wartime requirements; ensuring the viability of the agricultural system of the country; adjusting the operation of scientific and experimental institutions of the production elements of the country to meet the requirements of the Armed Forces for new products, equipment, and technologies to be used in war.

OGNEVOE SOPROVOZHDENIE Accompanying fire: Accompanying fire inflicts losses on the enemy by fire during the course of the attack. It includes artillery fire and rocket and air strikes in the course of the attack by the subunits, units, and large units of combined arms forces in the depth of enemy defenses. Accompanying fire inflicts continuous losses on the enemy by fire to destroy its personnel and equipment opposing the attacking forces. It also inflicts losses on the immediate reserves of the enemy. Accompanying fire is conducted following assault supporting fire, i.e., it begins after the termination of assault supporting fire and continues through the entire depth of the assigned mission.

OGNEVOI VAL Fire barrage: A fire barrage is a continuous fire screen on one or two lines conducted simultaneously in front of the attacking forces which are advancing into the enemy defenses. The first is conducted and moved into the depth of enemy defenses successively, in accordance with the advance of the attacking forces. The artillery barrage is a type of fire and also a method of artillery support of the attack. This fire is prepared during the penetration of the enemy

defenses. It is conducted on principal lines and intermediate lines. The shifting of fire from one line to another is conducted in accordance with the signal of the battalion and regiment commanders of the attacking forces.

OPERATIVNAIA ZADACHA Operational mission: A mission assigned by a higher commander to operational formations, i.e., army or *front*, to achieve a designated objective in the operation at a specific time.

OPERATIVNO-STRATEGICHESKII VOZDUSHNYI DESANT Operational-strategic airborne assault landing: An operational-strategic (until the early 1980s termed simply "strategic" in open literature) airborne assault landing is conducted by one or several airborne divisions supplemented by motorized rifle troops which are landed. Such an operation is planned by the General Staff with the participation of the overall command of the Air Forces, and the Airborne Troops command. Several divisions of Military Transport Aviation, Airborne Troops, Long-Range Aviation, a motorized rifle division, troops from PVOS, fleet elements, *front* air armies, and *front* rocket, artillery, and air defense troops may participate in the operation.

The missions of an operational-strategic airborne landing are as follows:

—seizing enemy political and administrative centers and disrupting national control means;
—completing the destruction of bases and troop groupings and the groupings of enemy nuclear weapons which are hit by friendly nuclear strikes;
—seizing important economic areas, large islands, and peninsulas;
—supporting forces resisting within enemy territory and opening a domestic (internal) front;
—assisting the troops operating from the front in accomplishing their missions;
—preventing the movement and advance of enemy reserves;
—opening new fronts on new directions.

The depth of the operational-strategic airborne landing can be 500 to 600 km or more.

OPERATIVNO-TAKTICHESKII VOZDUSHNYI DESANT Operational-tactical airborne assault landing: An operational-tactical (a term introduced by the early 1980s into open literature) airborne landing may be conducted by up to one airborne regiment or by a landing assault brigade (*desantno-shturmovaia brigada*). It is assault landed at a depth of 100 to 150 km in a conventional war and a depth of 250 to 300 km in a nuclear war. The operational-tactical landing force conducts the following missions:

—destroying nuclear weapons and chemical and nuclear weapons bases and depots;
—destroying airfields and air bases, control points, and air defense means;

—seizing bridges and bridgeheads, mountain passes, critical terrain areas, and other important targets;

—seizing and retaining in some conditions, important lines and areas in the enemy rear, covering the open flanks of army troop groupings, fighting enemy reserves and air-mobile forces, and enemy airborne and seaborne troops.

The high versatility of landing assault brigades allows them to conduct combat action from the air and on the ground in coordination with attacking troops and other elements of the *fronts* and armies, and to launch surprise blows on the enemy. When nuclear weapons are employed, they are employed mostly in the wake of nuclear strikes. Planning their employment is conducted by *front* and army commanders with the participation of the chiefs and commanders of various arms and services.

OPERATIVNO-VOZDUSHNYI DESANT Operational airborne assault landing: An operational airborne landing may be conducted by an airborne division which is dropped in a conventional war at the depth of 150 to 300 km, and in a nuclear war at a depth of 300 to 400 km. The planning and conduct of an operational airborne assault landing is done by the *front* commander with the participation of Military Transportation Aviation, other Services of the Armed Forces, and the chiefs and commanders of the various arms and services of the *front*. The missions of an operational landing are as follows:

—destroying enemy weapons of mass destruction, and seizing and destroying his nuclear rocket bases and nuclear ammunition depots;

—facilitating a high speed of attack by *front* forces;

—cooperating in the envelopment and destruction of enemy groupings hit by nuclear strikes;

—preventing the withdrawal of the enemy and the advance of enemy reserves;

—destroying troop control means and disrupting the operation of enemy rear services;

—seizing crossing sites and assisting *front* troops in crossing major water obstacles on the march.

The assault force is landed in a defined area. The area for a division airdrop can be 30 to 40 km.

For dropping an airborne division, three to four Military Transport Aviation divisions are required, with each transport division having up to 130 aircraft. The airborne division can conduct independent operations for a duration of six to seven days.

OPERATIVNOE NAPRAVLENIE Operational direction: A part of the strategic direction which includes land areas, water surfaces of adjacent seas, and air space where important operational objectives, i.e., where the enemy's grouping of ground forces, important economic centers, etc.

are located. Within the limits of the operational direction, operational formations of large units and units of various Services of the Armed Forces are deployed and conduct operations or combat actions in time of war.

OPERATIVNOE OBESPECHENIE Operational support: A series of measures taken to create favorable conditions for successfully accomplishing the operation. It includes skillful use of the means of armed struggle, retention and maintenance of the high combat capabilities of the troops, timely warning of the troops (preventing a successful enemy surprise attack), and reducing the effectiveness of enemy strikes on friendly troops. The basic types of operational support are the following: reconnaissance, protection against weapons of mass destruction, radioelectronic combat (*radioelektricheskaia bor'ba*), *maskirovka*, chemical support, engineer support, hydrometeorological support, rear service support, and at the tactical level, security. In the Air Forces, Navy, and National Air Defense Forces, operational support includes specific support measures related to these forces.

OPERATIVNOE POSTROENIE Formation for operations: The grouping of troops in an organization to conduct operations. This must be in compliance with the concept of the operation and should ensure successful implementation of the concept of the operation. The *operativnoe postroenie* of combined arms will consist of one, two, or sometimes more echelons and combined arms reserves. These will include operational formations of large units of combined arms, groupings of rocket forces, artillery groups, *front* aviation, air defense troops, combat support troops, airborne and seaborne assault landing troops, mobile obstacle detachments (*podvizhnyi otriad zagrazhdenii*, POZ), rear services groupings, and various kinds of reserves.

OPERATIVNOE RAZVERTYVANIE VOISK Operational deployment of forces: The creation or establishment of operational groupings of forces in the TSMA and in the operational and strategic directions. The principal measures and elements of operational deployment are the following: movement and deployment of the first operational echelon forces in the departure of forming-up areas or directly to the deployment lines, in accordance with the assigned operational missions and operational formation; movement of second echelon troops to the areas of their upcoming action; restoration of Air Force and Navy bases; deployment of control systems; deployment of operational rear services; and organization of all types of supporting measures. Depending on the situation, the operational deployment of forces can be conducted simultaneously or successively.

OPERATIVNOE VZAIMODEISTVIE Operational coordination, interaction, or cooperation: The coordination of the combat action of an operational formation in large units of various arms and services to achieve the aim of the operation in one or several adjoining operational directions.

Based on the instructions of the General Staff of the Armed Forces, it is organized by the commanders of the operational formations.

OPERATIVNYE POKAZATELI Operational indices: Operational indices are used to show the scope of operations and operational action. These depend on the size and expanse of an operation. Each one of the operations has its own indices. For instance, in an offensive operation, the indices will include the depth of the operation in kilometers, the duration of the operation in days, the average rate of advance of the attacking troops in kilometers per day, and the width of the attack zones in kilometers. In a defensive operation, they will include the width and depth of the defensive area. In a march, the length of the distance to be covered in kilometers (from the starting point or starting line to the line or the point of the marching objective or new assembly area), the duration of march in hours or days, the number of assigned directions of march, the width of the movement area, the length of the daily march in kilometers and the average rate of march in kilometers per hour are included.

OPERATIVNYI PERVYI IADERNYI UDAR Operational initial nuclear strike: The operational initial nuclear strike is conducted to inflict maximum losses on the enemy by delivering simultaneously a large number of rockets, bombs, and nuclear rounds against one or several groupings and the most important objectives of the enemy in the TSMA. It is conducted by using all *front* troops, such as *front* rocket troops and aviation, army rocket troops, and division rocket troops. The operational initial nuclear strike is planned by the *front* staff in accordance with the instructions of the General Staff and in cooperation with the staffs of the armies.

ORGANIZATSIIA OPERATSII Organization of the operation: Part of the preparation of the operation (*podgotovka operatsii*). It includes making the decision, transmitting the mission to subordinates, and organizing coordination, organizational control, and combat support missions.

ORGANIZATIIA VZAIMODEISTVIIA Organization of coordination, interaction, or cooperation: The coordination of the form of the conduct of action of operational formations, large units, units, and subunits of various Services of the Armed Forces and the various arms and services in terms of objective, place, and time; and the direction of this coordination of action to accomplish the assigned missions in achievement of the aim of the operation (battle). Depending on the aim of the action and the size of the coordinating groupings, the interaction of the troops can be strategic, operational, or tactical.

PEREDOVOI KOMANDNYI PUNKT (PKP) Forward command post: The forward command post is established in order to move control organs closer to the troops. This post always should be ready to take over full control of the troops when needed. There are 18-20 percent of the control personnel in the forward command post.

PEREDVIZHENIE VOISK Troop movement: Troop movement from one place to another or one area to another is conducted by a march, by railroad, air transport means, maritime transport means, river transport means, or by combined forms. The form of troop movement depends on the number of troops, distance, availability of transport means, communications groups, and other conditions.

PEREGRUPPIROVKA VOISK Regrouping of forces: The organized shifting of groupings of ground, air, or naval forces from one area to another. Regrouping is conducted to reinforce the existing grouping or to create new groupings of forces to repel an enemy's attack, develop success in the attack, or shift the combat efforts from one area to a new direction. It also includes the establishment of second echelon troops or reserves. In terms of the objective in scale, the grouping of troops may be termed as strategic, operational, and tactical. The regrouping of forces is conducted by movement of available forces and means by various modes of transport and combined transport from other areas.

PEREPRAVA Crossing or crossing site: A passage of the troops over water obstacles, such as rivers, canals, gulfs, straits, and also dams. In another sense, *pereprava* is a crossing site, i.e., the area along water obstacles which are prepared for the crossing of the units. Engineer troops, technical support elements, medical elements, traffic regulation elements, and recovery elements are organized on crossing sites. The crossing sites are classified into assault crossing sites, deceptive crossing sites, bridge crossing sites, ferry crossing sites, ice crossing sites, underwater crossing sites for tanks, and raft crossing sites.

PEREVAL Halt: The temporary stop of the marching column for the purpose of resting of personnel, feeding, control and materiel reserves, and technical maintenance of the vehicles. A short halt is normally given after 2 to 3 hours of march for a duration of 30 minutes to an hour. A long halt is given at the beginning of the second half of the daily march for a duration of two to four hours. In a short halt the vehicles are stopped on the right side of the road, the distance between vehicles is decreased to 10 meters, and the designated structure of the columns is not broken. In a long halt, the units disperse and take cover.

PLANIROVANIE OPERATSII Planning the operation: Preparing or working out the details of the decision of the commander by marking it on the map with written instructions, calculations, and necessary arguments. Planning may also be conducted in written form with a map addendum depicting the decision of the commander. In addition to this, the operational plan will have other addenda, including the plan of combat employment of various combat arms, combat support arms, and services. Planning elaborates the details and the sequence of the accomplishment of assigned missions by the troops, distribution of the efforts of the troops in terms of the directions of action, coordination between

the troops, combat measures of the troops in different phases, and control actions. Planning is a component of the preparation of the operation and it is conducted under the direct supervision of the chief of staff using the instructions of the commander on the basis of his decision for the operation. Planning is also conducted in accordance with the directions of the commander and staff of the higher echelon. The chief of political affairs, and chiefs and commanders of arms and services take part in the planning process. Only a limited number of people are called to participate in planning to ensure secrecy. Planning of the operation is conducted by different methods: successive, parallel, or a combination of both methods. In the successive method, the subordinate staffs begin planning when planning is completed at the higher echelon. In the parallel method, planning at the lower echelon begins when the decision is made at the higher echelon and the missions are assigned to the lower echelon, i.e., before the completion of planning at the higher echelon. In the third methods, a combination of both methods is normally used when time is limited. Planning in the lower echelons begins after the higher commander's concept of the operation is known, and the initial instructions are given to the lower echelon. The actions taken in planning an operation are supported by the high level of professional training of the officers, the cooperation of the staff, and the wide use of technical equipment, calculators, and computers. The overall planning results are reflected in the operational plan.

PLANIROVANIE STRATEGICHESKOI OPERATSII Planning a strategic operation: Planning of a strategic operation is conducted by the General Staff in peacetime and is a State secret. The overall command and staffs of the various Services of the Armed Forces, the chiefs of arms and services, Deputy Minister of Defense for Rear Services and his staff, the commanders of military districts and fleets and their staffs, and the general staffs of the Warsaw Pact countries participate in the planning only for issues directly related to the use of their forces.

The planning of strategic operations includes the plan of the employment of nuclear weapons; plans for *front*, air, air defense, airborne, and naval operations; plans for combat actions of operational formations and large units of the National Air Defense Forces, and other forces and means participating in the operation; plans for support measures; and others. The planning for military action, with or without the use of nuclear weapons, is based on realistic calculations of both sides with in-depth anticipation and forecasts of the military and political situation around the world. The unified aim of the operation, the attack sectors for *fronts* and armies, the directions of the main attacks and other attacks, and the immediate and long-range missions are specified in the plan. These are the same for both nuclear and non-nuclear war. The plan must be flexible and clear.

In strategic planning, special importance is given to planning the use of nuclear weapons, particularly the plan for the initial nuclear strike.

PODAVLENIE OB'EKTOV ILI (TSELEI) Suppression of objectives (targets): Inflicting such losses, so as to create conditions where an objective or target has lost its combat capability for some time, and its maneuver capability has been restricted or lost. Experience proves that if 25-30 percent losses are inflicted on a group of targets or their area is covered by fire of the same proportion, the targets are considered suppressed.

PODGOTOVKA STRATEGICHESKOI OPERATSII Preparation of a strategic operation: Preparation of a strategic operation in a TSMA is conducted in advance in peacetime. It includes the following elements:

—making the decision for the strategic operation;
—planning the operation;
—establishing groupings of Armed Forces for the conduct of the operation;
—assigning missions to operational formations;
—organizing the interaction of participating forces;
—preparing measures for all-round support in the interest of the strategic operation;
—organizing actions for secret deployment and the constant combat readiness of Armed Forces' groupings;
—organizing control of Armed Forces' groupings in the operation;
—ensuring systematic strategic control of the full and timely implementation of all measures.

POKHODNAIA KOLONNA March column: A formation of large units, units, and subunits for movement in the march along one direction. The march column of large units and units is divided in terms of its depth into columns of units and subunits. It is covered by security elements during the march. In the event a meeting engagement is likely, the march column is structured in accordance with the concept of upcoming battle. This should ensure rapid deployment of troops into combat formation. When a meeting engagement is unlikely, a march column is structured by putting different types of vehicles into separate columns according to their capabilities, so that high rates of advance are maintained and pressure on personnel and combat equipment is decreased. In this case, a separate direction of march is designated for tracked vehicles.

POKHODNYI PORIADOK March formation or order: The order of the march of units, subunits, and large units or vessels conducting a march or passage by sea, to complete an assigned mission. The march formation or the march order should ensure the following: high speed of march, rapid deployment of troops into pre-combat formation, or combat formation and speedy and continuous troop control. The march formation of large units, units, and subunits of combined arms forces normally consists of security elements, the main body, technical support units and subunits, and rear services.

POLKOVAIA ARTILLERIISKAIA GRUPPA (PAG) Regimental artillery group (RAG): A regimental artillery group is assigned to inflict losses on enemy personnel, mortars, and other weapons deployed in the first enemy defensive position (i.e., positions of first echelon battalions) or in their immediate rear. A regimental artillery group is established from several artillery battalions. Their number can be three to four or more.

POLOSA DVIZHENIIA Movement sector or area: The aggregate of all routes or directions of march which the units and large units of an operational formation use to move from their location to the objective of the march or to a new assembly area. One direction of march or one route is given for units and subunits. For a large unit, one or two march directions or a movement area is assigned. For an operational formation, a movement area is assigned, which includes four to seven march directions.

PORAZHENIE OB'EKTOV ILI (TSELEI) Destruction of objectives (targets): Inflicting such losses by various means of destruction that the target completely or partially (temporarily) loses its combat capability and will no longer will be able to conduct combat missions. When losses of 40-60 percent are inflicted on a group of targets or their area is covered by fire of the same proportion, the target is considered destroyed.

In a nuclear war, if a division suffers 60 percent casualties (losses), the division is considered to be a unit which has totally lost its combat power (capability). However, in a war without the use of nuclear weapons, a division with a 60 percent loss is considered a force with limited combat capability.

POSLEDOVATEL'NYI SOSREDOTOCHENNYI OGON' Successive concentrated fire: A type of artillery fire conducted during the support of the assault, e.g., assault support fire for motorized rifle and tank units. This fire is conducted to destroy any personnel equipment, tanks, and other equipment of the enemy in front of the attacking forces and on their flanks. These targets are engaged successively. The successive concentration of fire is conducted on predesignated areas which are to be suppressed. One or several specific disclosed enemy targets are included in each of these areas.

POSTY TSELEUKAZANIIA (PTs) Target identification posts: Target identification posts are under the command of tactical or operational combat control groups, and they are assigned for the identification of targets to aviation. These posts are established by helicopters, small aircraft, infantry combat vehicles, or armored personnel carriers.

POSTY VOZDUSHNOGO NABLIUDENIIA (PVN) Air observation posts: An air observation post is assigned for the observation and detection of air targets at low altitudes where radar cannot operate effectively.

PRINIATIE RESHENIIA NA STRATEGICHESKUIU OPERATSIIU Making the decision for a strategic operation: The decision for a strategic operation

constitutes the basis for developing all measures related to the preparation and conduct of the operation. The decision should be based on an objective assessment of the situation and always should be realistic in every aspect.

The decision for a strategic operation in a continental TSMA is made by the Supreme High Command, and it includes the following elements:

—deductions from an assessment of the military and political situation in a TSMA;
—assessment of the groupings of enemy armed forces and strategic aims of the enemy and his likely plans of action during war;
—composition and capabilities of the forces and means assigned for the conduct of the strategic operation;
—correlation of forces and means on both sides at the beginning of and during the operation;
—aim and concept of the strategic operation;
—structure and layout of the groupings of the Armed Forces for the operation;
—method of employment of nuclear weapons;
—missions of the operational formations of various Services of the Armed Forces;
—instructions on the organization of interaction;
—instructions on all-round support measures;
—instructions on control during the preparation for, and in the course of, the operation.

PROTIVOTANKOVYI REZERV (PTR) Antitank reserve: An antitank reserve consists of antitank artillery units (subunits) assigned to repel the strikes of enemy tanks, to reinforce antitank defenses on the most important directions, and to conduct combat against enemy tanks during the battle. Its composition includes, in addition to artillery troops, other means such as mobile obstacle detachments, flamethrowers, etc. The antitank reserve is established in combined arms units, large units, and operational formations during all types of combat action. The antitank reserve is directly under the control of the commander.

In a *front* the antitank reserve is organized from one or two antitank brigades of the *front*, or from the reserves of the Supreme High Command. In an army the antitank reserve is organized from the army antitank regiment or *front* antitank brigade. In a division the antitank reserve is organized from the division antitank battalion or the army antitank regiment. In a regiment the antitank reserve is organized from the division antitank battalion or antitank guided rocket battery.

PROTIVOVOZDUSHNAIA OBORONA (PEREKRYTIE) VOISK Air defense (cover) of troops: This constitutes complex measures and combat actions related to repulsing enemy air attacks and covering groupings of troops and rear service targets against such attacks. Air defense is organized

in all types of operations (combat actions), marches, and deployment. It includes aerial reconnaissance and warning of enemy air activity; combat actions of air defense rockets and artillery units; combat actions of fighter aviation; organized fire of antiaircraft means; and infantry weapons of troop subunits.

PUNKT NAVIGATSII I TSELEUKAZANIIA (PNTs) Navigation and target identification point: Navigation and target identification points are established in each center of an air army's combat control center. Two to three navigation and target identification points are established. These points are assigned to ensure and support the arrival of aviation at ground targets, guide fighter aircraft to air targets, provide aviation coordination with air defense rocket units, provide mutual identification between aircraft and ground forces, and ensure the flight security of the aircraft.

PUNKT SBORA Collection point: Collection points are designated for the organization of further activities by military personnel and combat equipment of small units after an alert signal. That is, they serve as gathering points for subunits after an alert signal, and must be designated so that all associated forces and means can quickly and easily reach them prepared to move to collection or concentration areas, or to conduct combat actions.

PUNKTY UPRAVLENIIA Control or command posts: Points specially established and equipped with technical means from which the commander and staff officers control the troops during the preparation for and conduct of the operation (battle), and also during combat (on-call) duties.

The following points are established for troop control: main command post, forward command post, auxiliary command post, alternate command posts, rear command post, and airborne command post.

Moreover, mobile command posts are established in armored vehicles, aircraft, helicopters, ships, trains, etc, which are provided with special equipment. Permanent command posts are established underground in the form of fortified and reliably protected facilities.

The relocation of control posts is conducted in a way not to disrupt the activities of control.

RADIONAVIGATSIONNYE PUNKTY (RNP) Radio navigation points: Radio navigation points are established by the *front* to support the operation of *front* aviation. Two to three such points are established at the *front*. They are assigned to support the flight of aircraft in the area of combined arms and tank armies and to designate the flight corridors for friendly aircraft at the *front* line.

RAION DESANTIROVANIIA Assault landing/drop zones or areas: The terrain areas in the rear of the enemy where airborne assault units are dropped or landed. It includes one or several drop zones for the parachute troops, or one or several airfields for air landing operations.

RAION OTDYKHA Rest area: An area where the troops, during long distance marches, spend the night or the day, depending on when the

march is conducted. In the rest area, troops move off the roads and disperse close to the roads or direction of the march. In long distance marches, the troops will be given or designated a 24-hour rest area after each three to five days of the march.

RAION OZHIDANIIA Waiting area: An area on the ground or close to airfields or embarkation areas for the concealed deployment of airborne and seaborne assault units to conduct preparation for embarkation and other necessary preparation of the units.

RAION POGRUZKI I VYGRUZKI Loading and unloading area: An area which is designated for loading and unloading of troops and materiel supplies. It may include several railroad stations, ports, harbors, airfields, helicopter landing areas, waiting areas for embarkation and marshalling areas after debarkation, movement routes for motor vehicles, and stopping areas for loading and unloading of ships in the case of naval movements.

RAION POSADKI MORSKOGO DESANTA Embarkation area of seaborne assault units: A part of the coastline with its adjacent waters where seaborne assault units are embarked on the vessels and transport ships. It includes main and reserve ports for the embarkation of troops on the ships and transport means.

RAION SBORA Collection area: Those areas designated for units to gather after an alert signal and their move out of the garrison. When the combat alert signal is given, subunits may first move to their designated collection points, and from there move quickly to the larger collection areas. These collection areas are to be located in concealed areas which can accommodate the entire unit. Conditions in these areas must be favorable for the formation of march columns and the rapid movement of troops to concentration areas, to avoid detection by the enemy and losses from his air and rocket strikes.

RAION SOSREDOTOCHENIIA Concentration area: Concentration areas are delineated sections of terrain where forces are assembled and concentrated. They are designated in peacetime and are located in places that are judged safest from enemy nuclear strikes. Sites are prepared by various kinds of engineer works. Troops are dispersed in concentration areas by units. These areas must be suitable for supporting the rapid preparation of troops for the conduct of combat actions, or their rapid movement from the area. Alternate concentration areas are also prepared.

RAION VYSADKI DESANTA [Seaborne] assault landing area: A part of the coastline with its adjacent waters where seaborne assault units land and the supporting ships operate. It includes the main and reserve landing areas, areas for the maneuver of ships providing naval gunfire, areas of tactical deployment of landed forces, areas of reembarkation of the troops, areas for the disposition of technical equipment and supplies used for the landing of the seaborne assault units, and areas for the

preparation of different waves of assault landing vessels to land the troops and materiel in the designated area.

RAKETNYE VOISKA STRATEGICHESKOGO NAZNACHENIIA Strategic Rocket Forces: One of the important Services of the Armed Forces. The State and the Communist Party pay significant attention to this Service. The Strategic Rocket Forces have enormous combat capability which includes the destructive power of nuclear weapons, the virtually unlimited range of rockets, great accuracy of fire, a higher combat readiness than other Services in launching massive strikes, the ability to maneuver strikes, and a relatively reduced vulnerability against enemy air strikes.

The main missions of Strategic Rocket Forces are:

—inflicting losses on enemy strategic nuclear delivery means;

—destroying enemy armed forces' groupings;

—destroying enemy nuclear, rocket, air, and naval bases and his military installations;

—destroying targets in the enemy systems of political and military administrative control, transport, power, energy, etc.

The composition of the Strategic Rocket Forces includes the following: operational formations and large units of intercontinental rockets, and operational formations and large units of medium and intermediate-range rockets.

In modern times, rockets may have multiple nuclear warheads, each of which can be directed to a specified target by an automated control system.

RASSREDOTOCHENIE SIL I SREDSTV Dispersal of forces and means: Dispersal of forces and means is conducted to decrease the casualties and losses in personnel and equipment due to enemy action. This is achieved by deploying large units, units, ships, and subunits in the departure areas of forming-up areas, assembly areas and defensive positions, in those places which can accommodate a dispersed disposition of forces. When the troops are moving, the directions of march should be separated by a sufficient distance to decrease the casualties and losses effected by the enemy through the use of different weapons. Sufficient and reasonable distances should be allowed between the vehicles, subunits, and units when they march. The degree of dispersal is dependent upon the nature of the assigned missions, control capabilities, the nature of the terrain, the time of the year and seasonal considerations, meteorological conditions, weather, etc. With the introduction of nuclear weapons in the armed forces, the dispersal of the forces is determined by the fact that two subunits or units located side by side should not be able to be destroyed simultaneously by one nuclear strike.

RAZVEDKA SPETSIAL'NOGO NAZNACHENIIA (RAZVEDKA SPETSNAZ) Special purpose reconnaissance: A type of reconnaissance conducted against

targets in political and economic centers and potential military targets. Its principal missions are the following: acquiring information about political, economic, and military targets; destroying or neutralizing these targets; organizing sabotage and subversive action; and preparing and training saboteurs. Units intended to accomplish such missions are organic to the reconnaissance components of *fronts*, armies, and divisions and constitute special organizations.

RAZVIVAIUSHCHIE VOISKA Development forces: Development forces are part of the formation for operations of an air operation. They are assigned to launch strikes on airfields which are newly detected during the operation and on targets not sufficiently damaged by strike forces and to carry out other missions which unexpectedly emerge during an operation. The composition of the development forces will include up to 10 percent of *front* aviation and 15-20 percent of assigned Long-Range Aviation.

RUBEZH RAZVERTYVANIIA Line of deployment: A designated line on the terrain where units and subunits deploy from march columns to the pre-combat formations or from pre-combat formations to combat formations. The deployment line is designated and assigned to the troops conducting the offensive operation or conducting an attack from the line of march while advancing from the rear. It is also for advancing troops being committed into the meeting engagement or conducting counterattacks or counterblows. A line of deployment is also designated for the antitank reserve. This is the line where the antitank reserve deploys into combat formation to repel an attack or counterattack of enemy tanks.

RUBEZH REGULIROVANIIA Traffic regulation line: A designated line on the terrain being crossed by the head of the column of troops moving on a direction of march when conducting offensive operations or approaching from the depth. Traffic regulation lines are also designated to serve as lines for the deployment of troops into battalion columns, company columns, and platoon columns.

RUBEZH VKHODA V BOI (SRAZHENIE) Line of commitment into battle (engagement): A designated line where the second echelon troops or reserves are committed into battle (engagement) and begin their combat action. This line is designated by the commander in his decision. In the course of battle (engagement), the locations can be readjusted according to the situation.

SILY I SREDSTVA Forces and means: Forces and means include personnel and combat equipment of the subunits/large units in formations assigned to conduct combat actions and combat support actions. In this sense, *sily* (forces) means units, such as rifle, tank, or rear service units. During the calculations for determining the correlation of forces and means, *sily* applies to the number of units/subunits and large units. *Sredstva*, or means, applies to the calculation of the weapons systems

such as guns, tanks, aircraft, launching pads, etc., as well as materiel and facilities supporting the forces.

SOSREDOTOCHENIE VOISK Troop concentration: The deployment of operational formations, units, large units, and ships in designated areas. Depending on their scale, it may be a strategic concentration, operational concentration, or tactical concentration. Success in troop concentration is achieved through proper selection of the method of troop movement, the directions of march and concentration areas, and the rapid and covert operations of the troops.

SOSREDOTOCHENNYI OGON' Concentrated fire: Artillery fire conducted simultaneously by several artillery batteries or several artillery battalions or ships on one or a group of targets. The field artillery is assigned areas of concentrated fire in the context of prepared plans. The battery and battalion conduct the concentrated fire on one target or one area.

SOZDANIE GRUPPIROVOK VOORUZHENNYKH SIL Establishment of a grouping of the Armed Forces: A grouping of Armed Forces in a continental TSMA is determined in advance in peacetime on the basis of the decision for the strategic operation and its components. It is created from the forces and means having constant combat readiness, the forces and means kept in incomplete (cadre) strength, and the troops which are going to be deploying after mobilization.

In determining an Armed Forces grouping and its combat capabilities when composed of troops at different levels of combat readiness, the following elements are taken into consideration:

—role of military action in the TSMA for achieving the aim of the war;
—political and military situation;
—composition and strategic situation associated with the preparation of enemy groupings;
—the degree of the threat of war;
—geographic characteristics of the TSMA, preparation of the TSMA, and mobilization capabilities;
—strategic situation of the groupings of friendly forces and the status of troop movement and deployment;
—economic capabilities.

Depending on the intensity of the threat of war and level of tension in the international situation, the composition of the forces and means kept in constant combat readiness in each TSMA can be decreased or increased.

SPETSIAL'NYI OTRIAD Special detachment: A permanent organization or a temporary establishment in the Armed Forces to conduct special missions, such as destruction of weapon systems, depots, nuclear bases, command posts, military/industrial targets, bridges, communications facilities, and other important targets.

STRATEGICHESKAIA OPERATSIIA Strategic operation: A strategic operation in a continental TSMA comprises the aggregate of strikes by Strategic Rocket Forces, and operations and combat actions by operational formations and large units of Ground Forces, Air Forces, National Air Defense Forces, and the Navy conducted in accordance with a unified general concept and plan, under the control of the Supreme High Command, to achieve the aim of the war in the TSMA.,

The composition of forces and means participating in a strategic operation in a continental TSMA can be as follows:

—three to four *fronts*;
—operational formations and units of Supreme High Command reserves;
—operational formations and large units of Strategic Rocket Forces;
—operational formations and large units of National Air Defense Forces;
—operational formations and large units of Long-Range Aviation;
—operational formations and large units of Military Transport Aviation;
—forces and means of the Navy.

The principal elements of a strategic operation can include the following:

—nuclear strikes by Strategic Rocket Forces on important targets in the entire depth of the TSMA;
—air operations of the Air Forces to destroy enemy air forces, nuclear rockets, and other targets;
—initial and subsequent operations of *fronts*;
—naval operations to destroy groupings of enemy ships and submarines in the oceanic TSMA, operations to destroy coastal targets, operations to launch seaborne assault landings, operations to destroy naval communication routes, and operations to defend against seaborne assault landings;
—operations by Airborne Troops;
—combat actions of National Air Defense Forces;
—other elements.

Several thousand nuclear rounds of various yields are allocated for a strategic operation. The following planning factors are associated with a strategic operation:

—width of operations of 1,000-2,000 km;
—depth of operations of 1,200-1,800 km;
—average rate of advance of 40-60 km per day;
—duration of operations of 25-30 days.

STRATEGICHESKII PERVYI IADERNYI UDAR Strategic initial nuclear strike: The strategic initial nuclear strike is conducted by surprise to inflict maximum losses simultaneously by rockets, torpedoes, air bombs, and other nuclear rounds on the entire enemy main groupings and his main

military, political, economic, and industrial targets in the TSMA. In the strategic initial nuclear strike, all forces of Strategic Rocket Forces, Long-Range Aviation, naval forces and submarines, operational-tactical and tactical rockets and *front* air armies take part. If the operational-tactical and tactical rockets and the *front* air armies are not ready to launch the nuclear strike simultaneously with the strategic nuclear strike, then the combat (on-call) elements of *front* operational-tactical and tactical rockets and *front* aviation forces participate. It is ideal to launch the operational initial nuclear strike simultaneously with the strategic initial nuclear strike, but if it is not possible, then the gap between these two strikes should be narrowed as much as possible. Since the strategic nuclear forces are normally at a higher degree of combat readiness, they may be prepared for the nuclear strikes far ahead of operational nuclear forces. The strategic initial nuclear strike is planned by the General Staff.

STRATEGICHESKII RAION Strategic region: An important part of the TSMA, where a country or part of a country and the most important targets having strategic significance are located. Such targets would include rocket bases, air bases, naval bases and groupings of ground forces, main centers of control, nuclear weapons depots, large communication centers, areas designated to form strategic reserves, rear services, industrial bases, and economic, administrative, and political bases or centers.

STRATEGICHESKOE NAPRAVLENIE Strategic direction: A large area within the TSMA, including the ground areas, coastal areas, and air/space areas. Within the limits of the strategic direction, large groupings of the armed forces of the enemy and the most important strategic targets are located. The destruction of these groupings and the seizure and retention of strategic targets and objectives in that area are a main objective of military actions of the strategic operation. Within the limits of the strategic direction, large groupings of the various Services of the Armed Forces assigned to accomplish strategic and operational missions are deployed and used. In time of war, operations or combat actions of such groupings are conducted along a strategic direction. Each continental TSMA may have several strategic directions.

STRATEGICHESKOE OBESPECHENIE VOENNYKH DEISTVII Strategic support of military actions: Strategic support of military actions includes a number of measures taken to maintain troops in a high state of combat readiness, maintain their combat capability, create favorable conditions for the organized and timely commitment of the forces in war, successfully accomplish the assigned missions, warn and prevent an enemy surprise attack, and weaken the effectiveness of enemy strikes.

The principal types of support of a strategic operation in a continental TSMA are as follows:

—reconnaissance;

—protection of the troops and rear service targets against weapons of mass destruction;
—operational *maskirovka;*
—radio-electronic warfare;
—engineer support;
—rear service support;
—others.

Measures for the principal types of strategic support are planned by the General Staff and implemented by the forces and means of the Supreme High Command and also by operational formations participating in the operation.

Different types of support in the interest of the Armed Forces are prepared and implemented in peacetime, and they are further developed and expanded during the operation.

STRATEGICHESKOE RAZVERTYVANIE Strategic deployment: The aggregate of a series of interconnected measures for bringing the Armed Forces from a peacetime to a wartime status. It also establishes the groupings of the Armed Forces for the conduct of war in accordance with the war plan and completes the direct preparation for war. The strategic deployment of forces includes the following elements: transition of the Armed Forces from a peacetime to a wartime status, i.e., bringing the troops to a level of full combat readiness and the mobilization of forces; operational deployment of the groupings of forces in the TSMA; formation of new units, large units, and operational formations required by the operational plans; strategic regrouping of troops by bringing forces from the depth of the country, shifting troops amongst the TSMAs, and the deployment of strategic reserves. Strategic deployment of forces is conducted in accordance with the situation either simultaneously or successively, but it is conducted in extreme secrecy, without giving any indication of the process. The timely strategic deployment of forces is ensured by accurate and precise planning in accordance with the forms of the initiation of war, by maintaining a constant and high combat readiness and mobilization fitness of the force, by preparing the TSMAs in terms of operational and all-round support measures in advance, conducting all-round support of the Armed Forces, ensuring precise and accurate troop control, and adequately covering control centers by air defense and other means.

STRATEGICHESKOE VZAIMODEISTVIE Strategic coordination, interaction, or cooperation: The organization of coordination in groupings of the Armed Forces is one of the most important elements of preparing for a strategic operation. It is the coordination of the actions of the operational formations and large units of the various Services of Armed Forces and branch arms and services in terms of the objective, time, and place in the form of the accomplishment of assigned missions and the direction of their efforts toward the achievement of the assigned

strategic aims. Strategic interaction is organized by the Supreme High Command on the basis of the unified concept and plan of the strategic operation.

SUKHOPUTNYE VOISKA Ground Forces: A Service of the Armed Forces which includes motorized rifle, tank, airborne, rocket, artillery, and air defense operational formations, large units, and units. To support the combat action of the Ground Forces the following special troops are included in their composition: engineer, chemical, radio-technical, signal, transportation, road construction, rear service units and installations, reconnaissance units, etc.

The Ground Forces, along with the Strategic Rocket Forces, are tasked to inflict decisive losses on enemy troops in a theater of strategic military action. The Ground Forces play a decisive role in the destruction of the enemy in a conventional war and in the completion of their destruction in a nuclear war. The Ground Forces are equipped with nuclear weapons, tactical and operational rockets, air defense and antitank rockets, modern tanks, and other contemporary combat equipment.

The principal mission of the Ground Forces, in coordination with the other Services of the Armed Forces in nuclear war, is to undertake decisive attacks at high speed to complete in a short time the destruction of enemy groupings which have been hit by strategic and operational nuclear strikes, and in a conventional war to inflict decisive losses on enemy forces and seize important and vital areas and targets in enemy territory.

SUTOCHNYI PEREKHOD Daily march distance: The distance to be covered by the troops during the march in a 24-hour period. The daily march distance depends on the speed of march of the columns, the length of the marching distance, and the physical capabilities of the drivers and combat and transport vehicles. The length of the daily march of the troops for motor transport columns is 400 kilometers per day. For combined vehicle columns it is up to 300 kilometers. In mountains, jungles, swamps, deserts, and other difficult areas, the average rate of movement and the length of daily march can be decreased.

TAKTICHESKII VOZDUSHNYI DESANT Tactical airborne landing: A tactical airborne landing is conducted by units ranging from a reinforced company to a regiment. They are mostly employed on the first day of an attack. The depth of the landing can be 50-100 km from the original enemy forward edge of defense (*perednii krai oborony*).

The missions of a tactical landing force can include the following:

—destroying enemy nuclear delivery means, command posts, and surviving small enemy units;

—preventing maneuver by enemy forces and means which have retained their combat capabilities;

—assisting the first echelon divisions in the seizure of road junctions, crossing sites on rivers, and also crossing radioactive contaminated areas and obstacles, especially those caused by nuclear minefields.

The planing of tactical airborne landings is conducted by army and division commanders with the participation of the chiefs and commanders of arms and services, especially those of the air army.

TAKTICHESKOE VZAIMODEISTVIE Tactical coordination, interaction, or cooperation: Tactical coordination is organized by the commander of operational formations, large units, and units amongst the formations and units of various combat and combat support arms carrying out combat actions. Interaction is organized for coordinated action of the troops in battle (engagement) in terms of objective, time, and lines, as well as the types of combat action to be conducted.

Among the important issues in operational and tactical interaction is coordinating the employment of nuclear weapons and other means of destruction with the action of the troops in order to achieve the most effective use of all forces and means in the combat action.

TEATR VOENNYKH DEISTVII (TVD) Theater of Strategic Military Action (TSMA): [The term is sometimes translated as Theater of Military Action(s) or Theater of Military Operations.] In modern times, a component of a continent with its coastal waters, internal seas, and its air space. A TSMA may also consist of an ocean, including the islands, seas, and coasts around the ocean, and its air space. This is called an oceanic TSMA. Generally a TSMA is a space where the various strategic groupings of the Armed Forces, to include ground, air, and naval forces, deploy and conduct military action to achieve the objective of a war. The limits and composition of force and means of a TSMA are determined by the political and military leaders of a nation or allied countries.

TEKHNICHESKAIA GOTOVNOST' Technical readiness: This constitutes the technical status of equipment and weapons that determines their readiness for employment. Adequate technical readiness is particularly critical for nuclear delivery means. Thus, for nuclear rocket weapons, high technical readiness is a state in which rocket forces can facilitate timely delivery of strikes on enemy targets in order to successfully accomplish their assigned missions. In a state of full operational combat readiness, rocket troops achieve specified levels of technical readiness in order to launch timely nuclear strikes on short notice. This includes in the case of rocket troops, for example, measures associated with warhead preparation and the preparation of launchers and aiming mechanisms.

TEKHNICHESKII RESURS Technical resource or technical "life": The capacity for action or operation of a vehicle from the time a unit begins to use that vehicle (or from the time that vehicle is used after a principal

repair job) to the time at which it is no longer operational. Technical resource is measured in terms of years, hours, kilometers, tons, and other units of measurement.

TREVOGA (BOEVAIA) Combat alert, combat alarm: 1. A number of measures taken in the Armed Forces to bring units (ships) to a level of full combat readiness at a specified time, and to prepare them for the conduct of combat missions, surprise attacks, and other operations of critical urgency. In the Soviet Armed Forces, the declaration of combat, air, fire, chemical, and other alarms have been established. 2. A signal to bring troops to a readiness level for action.

TSEL' OPERATSII Aim of the operation: The final outcome of the combat action to be achieved by the troops in the operation. It is determined by the higher echelon or higher commander, and is usually achieved through successive accomplishment of a number of operational missions.

TSEL' STRATEGICHESKOI OPERATSII Aim of the strategic operation: The aim of the strategic operation in a continental TSMA should provide for the complete destruction of enemy groupings in the TSMA; destruction of the enemy's economic and military bases and those of his allies; and eliminating important enemy countries from the war.

TSENTR BOEVOGO UPRAVLENIIA ISTREBITEL'NOI AVIATSII VOZDUSHNOI ARMII (TsBUIAVA) Combat control center of the air army's fighter aviation: The combat control center of the air army's fighter aviation is composed of a number of air army officers with communications means located in the air defense command post of the *front*. Its mission is to control fighter aviation covering the troops and targets of the *front* rear against enemy air attacks, particularly during the repulsion of the mass flights of enemy air forces, and to provide the coordination of fighter aviation troops with air defense elements.

TSENTR BOEVOGO UPRAVLENIIA VOZDUSHNOI ARMII (TsBUVA) Combat control center of the air army: The combat control center is composed of a number of officers of the air army with communications means attached to the command post of combined arms and tank armies. Its mission is to provide for the coordination of aviation with the army troops, to control the *front* aviation troops, and control the air movement of all arms and types of aircraft in the area of the combat action of the combined arms or tank army.

TYL VOORUZHENNYKH SIL Rear (services) of the Armed Forces: An indispensable element of the Armed Forces which includes diverse large units, units, and installations with materiel reserves deployed in the composition of combined arms units, large units, and operational formations, and also with the rear service large units, units and installations directly attached to the central organs of the rear services. Rear services provide for the materiel, technical, and medical support of the Armed Forces.

The rear services are divided into troop, operational, and central components.

The troop rear includes mobile rear service units and subunits organic to large units, units, and subunits. They are assigned for direct materiel, technical, and medical support of the troops under all conditions.

Operational rear services include materiel, technical, and medical large units, units, and installations organic to operational formations and assigned for the all-round support of the troops. The operational rear consists of rear services of *fronts*, fleets and naval bases, military districts, PVO districts, combined arms and tank armies, air armies, and other operational groupings.

The central rear services include rear service large units, units, and installations directly controlled by the main and central directorates of the Ministry of Defense and Main Staffs of the various Services of the Armed Forces. The central rear services comprise rear service reserves of the Supreme High Command.

TYLOVOI PUNKT UPRAVLENIIA (TPU) Rear control post: The rear control post is established for the control of the rear services. It should always be ready to take over the full control of the troops when needed. The following elements are in the rear control post: the staff and directorates of rear and technical services as well as those departments and sections of the staff, the political affairs department, and additional elements not included in the composition of other command post.

VERKHOVNOE GLAVNOKOMANDOVANIE (VGK) Supreme High Command (VGK): The VGK is the highest organ of control of the Soviet Armed Forces during wartime. It will directly control the Strategic Rocket Forces (through the General Staff or commander-in-chief of the Strategic Rocket Forces) and *fronts* and separate armies of the Ground Forces deployed in the main TSMAs. The VGK exercises control of large units and formations of the National Air Defense Forces, Air Forces, and Navy through organs from the lowest to the highest levels of control. In this case, the VGK has the authority to assign missions directly to formations and large units without observing the established channels of control.

VIDY VOORUZHENNYKH SIL Services (types) of Armed Forces: Services are an integral part of the Armed Forces assigned for the accomplishment of strategic, operational, and tactical missions during war in one or several spheres of military action (on the ground, at sea, in the air, and in space). The various Services of the Armed Forces include Strategic Rocket Forces, Ground Forces, National Air Defense Forces, Air Forces, and the Navy. All five of these Services of the Armed Forces are specially organized and equipped with weapons and combat equipment consistent with the type of missions they are assigned to accomplish.

VOENNAIA BAZA Military base: An area specially equipped in military terms and prepared for the deployment of military-technical means, required ammunition reserves, fuel and lubricants, foodstuffs, and other materiel. Military bases are divided into aviation bases, naval bases, and rocket bases.

VOENNAIA BLOKADA. Military blockade: A form of combat action to isolate (disrupt communication with other areas) an enemy country, large groupings of enemy troops, cities, ports, and other targets. The objectives of military blockades are as follows: disrupting military-economic state power, inflicting heavy losses on enemy groupings, and achieving their subsequent destruction or surrender. A blockade can include total or partial isolation of ground, naval, and air force troops or a combination of total and partial. A blockade is conducted at the strategic and operational level. At the tactical level it becomes an encirclement of the troops.

VOENNAIA DOKTRINA Military doctrine: A system of theories accepted by the State and the Armed Forces about the characteristics, form, and conduct of war, and the preparation of the nation and the Armed Forces of war.

Military doctrine is developed by a country's political leadership according to domestic and foreign policy, on the basis of ideologies about war and the Armed Forces, in close consideration of military-scientific achievements. Military doctrine reflects the economic, political, and historical characteristics of the population and its international commitments.

Military strategy is closely connected with military doctrine and is subordinated to it. At the same time the political basis of military strategy has a direct influence on the development and perfection of the military-technical fundamentals of military doctrine.

VOENNAIA TRANSPORTNAIA AVIATSIIA (VTA) Military Transport Aviation: Military Transport Aviation, a part of the Air Forces, is considered an asset of the Supreme High Command, and is assigned to accomplish missions in landing airborne forces, air transport of other troops, supply of weapons, fuel and lubricants, foodstuffs and other materiel, and evacuation of sick and wounded.

Units and subunits of Military Transport Aviation can be attached to *fronts* for the maneuver of the troops and supply of rockets, nuclear rounds, weapons and other materiel. Military Transport Aviation is organized into divisions and separate regiments equipped with transport aircraft having long-range capability and various transport capacities.

In order to increase the range, speed, and altitude of flight, special measures are taken on the design of wings, and special engines are anticipated which will operate by nuclear power. These aircraft will be able to conduct vertical takeoffs and landings. Transport aircraft are capable of transporting large numbers of airborne troops with their

heavy equipment and armor over long distances, even from dirt airfields with limited runway lengths. Great progress is being made in development of the speed, payload capacity, sustainability, and control of helicopters.

VOENNO-MORSKOI FLOT (VMF) Navy: A Service of the Armed Forces, which is also equipped with nuclear weapons. Nuclear rocket submarines are considered an asset of the Supreme High Command and constitute the basic strike means of the Navy.

The mission of the Navy is the destruction of the enemy posing a threat from the sea, and on the sea; destruction of enemy military and naval bases; protection and defense of communication lines, etc.

The following elements are included in the composition of the Navy:

—submarines equipped with ballistic rockets of long and intermediate ranges;

—submarines equipped with cruise missiles and torpedoes with nuclear warheads;

—Naval Aviation armed with rockets and anti-ship weapons, and reconnaissance aircraft;

—surface vessels;

—coastal artillery and rocket troops;

—Naval Infantry.

Moreover, the Navy has special troops such as reconnaissance, chemical, signal, hydrography, and rear service units and installations.

VOENNO-VOZDUSHNYE SILY (VVS) Air Forces: One of the Services of the Armed Forces assigned to launch strikes on enemy air, ground, naval, rocket, and air defense groupings; and enemy political, administrative, industrial, and economic centers in order to destroy or disrupt the enemy's state and military control systems, his rear services and transport means, and his air reconnaissance. The Air Forces accomplish these missions independently, or in cooperation with other Services of the Armed Forces.

The Air Forces are equipped with operational aircraft, seaplanes, and various types of modern helicopters. The main combat forces consist of supersonic aircraft. The aircraft are equipped with nuclear rockets; air-to-air, air-to-surface, and air-to-ship conventional rockets, and other types of modern weapons; automated control systems; and radio jamming means. The speed of flight, the range of flight, and the altitude of their flight have developed enormously, and some aircraft can conduct vertical landings and takeoff. Special aircraft and helicopters are developed with the capability of carrying heavy artillery and tanks. There are aircraft which can lift a full subunit with all its equipment. Military aviation forces include *front* aviation, Long-Range Aviation, and Military Transport Aviation. The Air Forces, in terms of the characteristics of missions, are classified into the following forms; fighter aviation, fighter-bomber aviation, bomber aviation (and

bombers armed with rockets), reconnaissance aircraft, transport aircraft, and auxiliary aircraft.

The Air Forces also have special troops, such as signal, chemical, radio-technical support, rear service units and large units, etc.

VOISKA PROTIVO-VOZDUSHNOI OBORONY STRANY (PVOS) National Air Defense Forces: A Service of the Armed Forces assigned to provide defense against aircraft, rockets, and space means on behalf of important targets, to include political, administrative, and economic centers; Strategic Rocket Forces groupings; and operational formations of the Ground Forces, Air Forces, and the Navy. Special emphasis is placed on protection against enemy nuclear strikes.

The National Air Defense Forces are composed of anti-rocket defense forces, air defense rocket troops, radio-technical troops, fighter aviation, and also special troops such as radio-reconnaissance and radio jamming, engineer troops, chemical and signal troops, and rear service units and installations. The National Air Defense Forces are organized into operational formations, i.e., air defense military districts, air defense armies, and large units. The armament of National Air Defense Forces includes anti-rocket complexes; anti-space complexes; long-range and intermediate range air defense rockets, and low-altitude rockets, all armed with nuclear and conventional warheads; long-range and short-range fighter aviation armed with rockets; various radio-technical means; and automated control systems.

Further progress is being made in the perfection of long-range radars, laser means, and infrared equipment to detect targets and independently guided warheads. In the future, a universal system of automated guidance leading to the destruction of various targets such as aircraft, rockets, and even space means will develop. Also anti-rocket complexes will be further developed.

VOORUZHENNYE SILY SSSR Armed Forces of the USSR: The Soviet Armed Forces as a State organ constitutes an element of the State's political infrastructure, a principal means of applying force, and the most important weapon of the political leadership for achieving political aims through the conduct of war. The Armed Forces as a means for conducting war includes a collection of organizations and structures which are organized from the required number of trained personnel armed with weapons and combat equipment, and assigned for conducting war to achieve specific political aims and to ensure the fulfillment of the ideals and supremacy of Marxism-Leninism on the entire globe.

The Soviet Armed Forces include the following elements: Strategic Rocket Forces, Ground Forces, National Air Defense Forces, Air Forces, the Navy, the Armed Forces rear services, Civil Defense, special troops, Border Troops, forces of the Ministry of Internal Affairs (Internal Troops), and other elements of the nation's military structure.

VOZDUSHNAIA ARMIIA (VA) Air army: An operational formation of the Air Forces, which is organic to a *front*. Its missions are as follows:

—Covering troops and *front* rear services against enemy air strikes;
—destroying enemy air forces on their airfields, in the air, and in base areas;
—searching out and destroying enemy nuclear rocket means;
—providing air support to combined arms and tank armies;
—destroying and suppressing enemy reserves;
—conducting air reconnaissance;
—supporting the landing and combat action of seaborne assaults and cooperating with the *front* troops in coastal defense on naval directions;
—landing and supporting Airborne Troops;
—destroying enemy airborne and seaborne assault forces in the air, and in landing areas.

The organization of an air army is not fixed. It depends on the missions of the *front*, condition of the TSMA, and the characteristics of the air enemy. In the Western TSMA the organization of an air army can be as follows:

—up to three fighter aviation divisions;
—one to two fighter-bomber aviation divisions;
—one bomber aviation division;
—up to two air reconnaissance regiments;
—one radio jamming regiment;
—two to three combat and transport helicopter regiments.

VOZDUSHNYI DESANT Airborne (assault) landing or airborne (assault) landing force: Troops especially trained to conduct combat actions in the rear of the enemy. They are dropped or landed by aircraft, helicopters, and gliders.

Depending on the number of troops to be employed, the characteristics of the missions to be accomplished, and the depth of the landing or drop, an assault landing is classified as operational-strategic, operational, operational-tactical, tactical, and also special purpose.

Assault landing forces can be parachuted, landed, or a combination of both. Parachute landing forces are dropped from military transport aircraft to accomplish combat action in the enemy rear, and also to seize airfields which will support the landing of reinforcing elements of various types. A landing force is delivered by aircraft, helicopters, and gliders, against airfields and helicopter landing pads in the enemy rear. [It should be noted that the forms of the Russian word *desant* (including the verbal form *desantirovat'*) refer generally to an assault landing conducted by various air, sea, and ground means. *Desant* also may refer to an assault landing force itself. In the volume, the forms of *desant* are translated as "landing," "assault landing," "assault landing force," and variations thereof depending upon context and issues of style. Unless otherwise specified in the text, these terms should be understood to be pertinent to the airdrop of an airborne assault landing

force *(vybroska vozdushnogo desanta)*, airlanding of an airborne assault landing force *(vysadka posadochnogo desanta)*, and an assault force landed by the combined airdrop/airlanding method *(kombinirovannyi desant)*. In some cases, as dictated by common usage, forms of *desant* are not translated literally. For example, in addition to "Airborne Troops," this was done in the text with "airborne division" (lit. *vozdushno-desantnaia diviziia*—air-assault landing division), and airborne operation (lit. *vozdushno-desantnaia operatsiia*—air-assault landing operation).]

VOZDUSHNYI KOMANDNYI PUNKT (VKP) Airborne command post: An alternate command post providing continuity of control. Its composition is specified by the commander in each case. This means that if a larger helicopter or aircraft is employed, a large number of personnel can be assigned. If not, a smaller complement will be detailed.

VSPOMOGATEL'NYI PUNKT UPRAVELNIIA (VPU) Auxiliary control point: An auxiliary control point is established under special conditions. It may be assigned to control the troops operating on a separate or isolated direction. Its composition and the individual in charge are both specified by the commander.

VYZHIDATEL'NYI RAION Waiting area, attack position: An area of terrain occupied by troops before going over to the offensive. All measures associated with preparation for the offensive are taken here. In recent years, the term refers to the forming-up area and is the final area in which troops wait prior to commitment into combat. It is the area typically associated with the final waiting area occupied by the first echelon unit prior to combat, if such an area is occupied at all. The preferred method now is for the unit to enter combat straight from the approach march, in which case no waiting area is occupied. This area may also be the final waiting area of a second echelon unit. In this case, the unit is formed in columns and makes final preparations while waiting for the first echelon units to accomplish their mission. However, this area, in general, is not always designated in any special terms. During the course of an operation, units (including second echelon units) are generally on the move and, therefore, do not occupy areas, but rather stop periodically in column formation.

VZAIMODEISTVIE Coordination, interaction, or cooperation: See entries for *operativnoe vzaimodeistvie, organizatsiia vzaimodeistviia, takticheskoe vzaimodeistvie*, and *strategicheskoe vzaimodeistvie*.

ZADACHA DNIA Daily mission: The daily mission is assigned to large units in the attack to be accomplished by the end of the daily operation. It may include the destruction of enemy corps reserve in coordination with adjacent formations, and seizure of areas (objectives and lines) to the depth of 40-60 km.

ZAGRADITEL'NYI OGON' Blocking fire: A type of artillery fire conducted on specific lines of terrain on the front and flanks of units and subunits

operating in a defensive action. This fire is preplanned and prepared in the course of a defensive operation. It is conducted in order to inflict losses and casualties on enemy infantry and tank units and to prevent their attack against the lines supported by artillery. Blocking fire is conducted by regimental artillery groups and divisional artillery groups. These fires are prearranged, prepared, and conducted at a specific time. Blocking fire is divided into two types: fixed *(nepodvizhnyi)* and mobile *(podvizhnyi)*. Fixed blocking fire is the highest density of artillery fire used to stop the movement of the enemy, i.e., to repel his attack and counterattack at the specific lines selected beforehand. It is conducted at a specific time by guns using prearranged fire data. Mobile blocking fire is a type of artillery fire used in the defense to repel the assault and attack of enemy tanks and infantry troops by inflicting casualties on them, and to prevent the advance of the enemy to the main defensive line. This fire is conducted continuously along specific lines and is shifted from one line to another successively. The lines are preselected on the most dangerous direction of tank attack.

ZAMYSEL OPERATSII Concept of the operation: The concept constitutes the basis of the decision on conducting a combat action. The concept includes the following elements: the direction of the main attack and other attacks or the area where the main efforts are going to be concentrated; the sequence and forms of destroying the enemy; the method of conducting fire; in the case of nuclear war, the method of inflicting losses on the enemy by nuclear means; and the grouping of forces and the establishment of an organization for operations (see *operativnoe postroenie*).

ZAMYSEL STRATEGICHESKOI OPERATSII Concept of the strategic operation: The concept of the strategic operation in a continental TSMA constitutes the principal content of the decision of the Supreme High Command, and normally reflects the ideas of simultaneous or successive destruction of the groupings of the enemy armed forces and the destruction of important military and economic targets in the entire depth of the TSMA. In he concept of the operation the following points are specified:

—destruction of important groupings, above all enemy nuclear aviation and space groupings, destruction or seizure of important economic and military targets on which the morale and technical support of the armed forces are based; foiling the enemy's mobilization, disrupting his state and military control by the initial strategic nuclear strike or, in the absence of the use of nuclear weapons, by conducting an air operation, which inflicts losses on enemy targets;

—direction of launching the main attacks and other attacks;

—method and form of the destruction of the main enemy groupings in the TSMA and the seizure of vital and most important enemy

areas, the seizure of which foils or greatly restricts enemy military action;

—groupings of the Armed Forces and establishment of the strategic formation of forces in the continental TSMA;

—conduct of airborne and seaborne operations to seize the most important areas and targets and to force the withdrawal of some of the enemy's allies from the war.

ZAPASY MATERIAL'NYKH SREDSTV Reserves of materiel: Materiel reserves constitute a specified quantity of weapons, combat equipment, ammunition, fuel, food, engineer supplies, medical supplies, and other items. Reserves are maintained in rear service arsenals, depots, and bases and in formations, large units, units, and subunits. Reserves of materiel are specified in accord with anticipated peacetime and wartime requirements. In terms of their level of echelonment, they are classified as strategic, operational and troop (tactical) materiel reserves. More specifically:

—strategic reserves are maintained in central arsenals, depots, and bases;

—operational reserves are maintained in the bases and depots of operational rear services found in the various Services of the Armed Forces, where they are under the control of formation commanders;

—troop materiel reserves are maintained in the depots of large units, units, on the transport vehicles of subunits, on combat vehicles, in the launch positions of rockets, with guns, mortars, machineguns, in repair and medical subunits, and with personnel. Troop reserves are divided into materiel reserves of divisions, brigades, regiments, battalions, companies (batteries), and platoons.

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